University News

MONDAY, NOVEMBER 7, 1988 Rs. 2.50

Seminar on Examination Reforms

Dr. V. Natarajan, Director (Research), AIU addressing the Seminar on Examination Reforms organised by the Students' Union of Mahatma Gandhi University, Kottayam.

The United States Educational Foundation in India

'Fulbright House', 12 Hailey Road, New Delhi-110001

1989-90 AMERICAN RESEARCH FELLOWSHIP PROGRAM

The U.S. Information Agency through the USEFI is offering a few three-month fellowships to faculty members of university/research institutions to conduct research on topics relating to the study of American culture and/or society. Scholars must demonstrate a need to conduct research in the United States and indicate ongoing contact with American colleagues and activities in their fields. Proposals involving doctoral dissertation research, technical studies, training or general professional travel will not be entertained. The program is intended for scholars who need to return to the United States to continue research. These grants will be awarded for research projects in humanities (excluding plastic arts) and social sciences excluding quantitative studies/analysis).

ELIGIBILITY

The applicant must

(i) have a Ph.D. degree and/or professional with an established career interest in the U.S.;
(ii) be preferably not more than 45 years of age;
(iii) be in India at the time of application;
(iv) be in good health;
(v) possess Indian citizenship;
(vi) have confirmation of American University affiliation and agreement from an American colleague to act as U.S. collaborator or host. (Applicants should demonstrate previous U.S. experience in which they pursued professional objectives and developed contacts with American colleagues in their fields), and
(vii) agree to give the United States Information Agency (USIA) a non-exclusive world-wide right to publish the research documents or any portions thereof. A signed statement agreeing to this requirement must accompany the application.

GRANT PROVISIONS

The grant will provide

(i) round-trip international travel (economy excursion class) and excess baggage allowance for the grantee;
(ii) a monthly cost of living allowance of $ 2,200 per month for three months (subject to U.S. income tax); and
(iii) limited medical insurance coverage for grantee only.

GENERAL

Applications can be obtained from any one of the USEFI Offices (address given below), and must be submitted, complete in all respects through the Vice-Chancellor/Registrar/Director or designated administrative authority to the office of the U.S. Educational Foundation in India, 12 Hailey Road, New Delhi 110 001, before **December 15, 1988.**

In the case of Central and State government officials, application should be sent through proper channel to the Under Secretary (U. 4), Department of Education, Ministry of Human Resource Development, Shastri Bhawan, New Delhi 110001.

Applications will be reviewed by a Selection Committee in New Delhi and nominations sent to Washington. Final selections will be made by the Board of Foreign Scholarships and Council for International Exchange of Scholars at Washington, D.C., and the applicants will be notified of the outcome in April/May 1989. Selected scholars should plan to travel beginning September 1989 or January 1990. Academic programs must be carried out between July 1989 and June 1990.

USEFI OFFICES

Northern Region

U.S. Educational Foundation in India
'Fulbright House'
12 Hailey Road,
New Delhi-110 001

Eastern Region

U.S. Educational Foundation in India
Regional Office,
Flat No. 2, Park Mansions,
57 Park Street, Calcutta 700 016

Southern Region

U.S. Educational Foundation in India
Regional Office,
American Consulate Bldg., Mount Road,
Madras 600 006

Western Region

U.S. Educational Foundation in India
Regional Office,
'Sundeep' 4, New Marine Lines,
Bombay 400 020

UNIVERSITY NEWS

VOL. XXVI NOVEMBER 7
No. 45 1988
Price Rs. 2.50

A Weekly Chronicle of Higher Education published by the Association of Indian Universities

IN THIS ISSUE

Women's Interests
Interactive Relationship in the Affiliating System 4
Science and Technology Education 9
News from Universities
  Sambalpur University—A Profile 15
  Why Examination Reforms ? 16
  Research in Microelectronics at BHU 18
  Lasers in Chemical and Biological Sciences 18
  Chemistry Curriculum Report 19
  Workshop on Indian Standards 19
  UGC Seminar on Biophysics 19
Agriculture
  Livestock Health and Rural Economy 20
  HAU Expertise for Africa 20
  PAU Adds Home Science PG Wing 20
News from Abroad
  Master's Programme in Development Administration 21
Research in Progress 22
Theses of the Month 27
Classified Advertisements 29

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

WOMEN'S INTERESTS

Surya Kumari*

The nature of state, which emerged in the post-British period is a complex political-administrative structure and associational institutional framework (including those meant for women's welfare) as part of its 'modernization' strategy. The basic interests of women are socio-economic and political in character, the structure of which requires conscientization and politicisation of both men and women. However, the strategy required is a combination of two struggles for rights : one for the "legally entitled" (economic, social and political) and the other against this very social order for which gender is an important means of exploitation.

Improvement in the status of women is a pledge made by the makers of the Indian Constitution and admitted by the Government from the beginning as one of the major tasks facing the country. The attainment of equality of status for women is one of the specific objectives which is implicit in the Preamble, Fundamental Rights and the Directive Principles of State Policy. While Indian society can be categorized by castes, communities and classes for convenience, the most relevant broad categories of women are only three :

(1) Women below the subsistence level;
(2) Women who move continuously between security line with the disappearance of their means of earning a livelihood; and
(3) Women firmly above the security line.

The interests of women belonging to the first two categories are more essential and relevant for our national development.

The Government and Voluntary Organisations have undertaken various measures for women's interests. The National Planning Committee, under the Chairmanship of Pandit Jawaharlal Nehru, had formed a number of sub-committees to deal with all aspects of national life. A sub-committee was appointed to deal with the place of women in the planned economy of India, including consideration of their social, economic and legal status, their right to hold property, carry on any trade, profession or occupation and remove all handicaps in the way of realizing equal status and opportunity for women. The various reports of the sub-committees were published in 1947, the year that India attained independence. The sub-committee on women had touched almost every aspect of women's life and role in the national development.

The liberal ideas of Pandit Jawaharlal Nehru and his farsighted vision of his country emerging as a strong developed nation is very much evident in the "Status" and "Role" he accorded to the "Women" in the planned economy. The objectives of the sub-committee reveal the importance of the role of women in the planned economy of the country had been recognised and given considerable thought by the early patriots and planners. Their recommendations have indeed been very comprehensive and touch almost every sphere of women's social and economic

---

**Senior Fellow in Historical Studies, Mother Teresa Women's University, Kodaikanal-624 102.*

interests. However, after nearly three decades of planning the recommendations of the sub-committee do not seem to have made any significant impact on the development of women.

Women's Interests in the Five Year Plans

The first Five Year Plan (1951-56) envisaged welfare measures for women. To spearhead the welfare measures, a lead body, the Central Social Welfare Board (CSWB) was established in 1953 which symbolized the welfare approach to Women's problems. But in this plan a large majority of poor rural women remained untouched. The Second Five Year Plan (1956-1961) recognised the need for the organisation of women as workers. The plan stated that women should be protected against injurious work, should receive material benefits and creches for children. The Third Five Year Plan (1961-66) pinpointed female education as a major welfare strategy. The Fourth Five Year Plan (1969-74) continued the emphasis on Women's Education. The basic policy was to promote women's welfare within the family as the base of operation.

The Fifth Five Year Plan (1974-79) emphasized the need to train women in need of income and protection. It also recommended a programme of functional literacy to equip women with skills and knowledge to perform the functions of a house wife including child care, nutrition, health care, home economy, etc. This plan coincided with the International Women's decade and the Report of the Committee on the Status of Women. The overall task of the Committee on the Status of Women in India (CSWI) was to undertake a comprehensive examination of all the questions relating to the rights and status of women as a result of the constitutional, legal and administrative measures adopted since independence. The report stressed that the dynamics of social change and development had adversely affected a large section of women and had created new imbalances and disparities such as :

1. the declining sex ratio;
2. lower expectancy of life;
3. higher infant and maternal mortality;
4. declining work participation;
5. illiteracy; and
6. rising migration.

A major outcome of the CSWI report was the National Plan of Action that provided the guidelines based on the UN's Plan of Action for Women's interests. The National Plan of Action (1976) identified areas of health, family planning, nutrition, education, employment, legislation and social welfare for formulating and implementing action programmes for women and called for planned interventions to improve the conditions of Women in India. In 1977-78 as an exercise for the Sixth Plan, the Government appointed the working group on Employment of Women. It devoted a whole chapter to women and development. The Seventh Five Year Plan operationalised the concern for equity and empowerment articulated by the International Decade for Women. In 1985 the Government of India constituted a separate department in the Ministry of Human Resource Development, for the development of women and children. The Department funds the Central Social Welfare Board that has predominantly Welfare Programmes for Women. A number of these programmes were envisaged in the Sixth/Seventh Plan period viz. Women's Development, Corporations, Support to Training for Employment Programme, Training-cum-Production Centres for Women (NORAD), Awareness Generation Camps for Rural and Poor Women, Women's Training Centres or Institutes for Rehabilitation of Women in Distress, Short Stay Homes for Women and Girls, Voluntary Action Bureau and Family Counselling Centres, Free Legal Aid & Para Legal Training, Working Women's Hostels, etc.

The National Perspective Plan for Women 1988 - 2000 A.D. is an effort at a long term overall policy for Indian Women, guided by those constitutional principles and directives relevant to the development process. It is linked to the national targets determined for the end of the century in respect of certain basic indicators especially of health, education and employment. The plan views women not as the weaker segment of society or as passive beneficiaries of the development process, but as a source of unique strength for attaining national goals.

The plan aims at economic development and integration of women into the mainstream of the economy; and equity and social justice for all women. These are critical goals for the all round development of women not merely as producers and providers, but also as individuals with a right to human dignity in a society where 'culture' and 'class' tend to discriminate against gender.

Recommendations

After independence the progress in science and technology has led to tremendous development in certain areas like education, transport, communication, mass media like newspapers, radio, films, etc. This has resulted in a sea change in the life styles of men and women the world over. The impact of these changes varied in urban and rural areas. Women work mostly as agricultural labourers in the rural areas, as coolies and construction labourers in the urban construction sites or employed in petty and menial services. The women in this section i.e. the women belonging to the lower economic strata are compelled to work in order to make both ends meet. Some of the most common problems facing the women in this strata may be listed below :

(a) The low and unequal wages paid to the women in this category even where they are doing more or less similar type of work as men.

(b) They are often subjected to the double burden of earning as well as caring for the children.

(c) Large size of family.

(d) Extremely low levels of literacy.

(e) Unhygienic living conditions.

(f) Lack of basic medical facilities.

It has been found that various legislations passed by the Government concerning some of their problems have not proved effective. Whether it is the Minimum Wages Act, Child Marriages Act or Prohibition they have remained mostly on paper.

In some cases the Government itself is not very consistent. While it advocates prohibition on one hand, licenses to liquor shops and bars are granted liberally on the other hand causing immense difficulties to the lower stratum of the society.

Effective implementation of Acts is essential in safeguarding Women's interests. The Dowry Prohibition Act 1961 has been amended in 1984 and 1986 to make the Law regarding offence against Women stringent. The Indian Penal Code, the Criminal Procedure Code, 1973 and the Indian Evidence Act 1982 have also been amended to deal effectively not only with dowry deaths but also with cases of cruelty to married women. In order to deal better with other criminal offences against women i.e. illegal sale of girls for trafficking, Suppression of Immortal Traffic in Women and Girls' Act has been amended and the amended Act is known as Immoral Traffic (Prevention) Act, 1986. Mere making of laws and Acts will not solve the problems of Womens : the Government should see that proper action is taken within propef time frame.

Inducting of women in some of the decision making bodies creates hopes of action on the part of the Government. Active women educationists, social workers and others should become part of planning activities.

The short-run policy measures, however, are not capable of solving the basic problems of women. Long term comprehensive policy measures are needed to safeguard the interests of women.

Sectorwise action is needed for the betterment of women's conditions. Rural development, employment, training, enforcement and legal safeguards, education, health, media and communication are the different sectors which influence the interests of women.

The Government measures and policies cannot alone achieve equality of women, the society also has a certain role to play in this. The society should realise the importance of women's interests in the national development and should contribute for the same. ☐

REFERENCES

1. *Women's Role in Planned Economy* : (National Planning Committee Series, Bombay, 1947).
2. *Status of Women in India (A Synopsis of the Report of National Committee on the Status of Women (1971-74)*. The Indian Council of Social Science Research, New Delhi, 1975).
3. *Compendium of Policy Statements made in the Parliament (Winter Session, 1987)*. (Human Resource Development, Parliamentary News and Views Service, New Delhi).
4. *Compendium of Policy Statements made in the Parliament (Budget Session, 1988)*. (Human Resource Development, Parlimentary News and Views Service, New Delhi).
5. *Draft National Perspective Plan for Women 1988-2000 A.D. Various Pamphlets Relating to Women's Welfare*. (Puplished by Government of India, Department of Women and Child Development, Ministry of Human Resource Development, New Delhi).
6. Mathew, P.M. & Nair M.S., *Women's Organisations and Women's Interests*. (New Delhi, 1986).
7. Desai, Neera & Krishna Raj, Maithreyi, *Women and Society in India* (Delhi 1987).
8. Desai, Neera & Patel, Vibhuti, Indian Women *: Change and Challenge in the International Decade 1975-1985* (Bombay, 1984).
9. Usha Rao, N.J. *Women in a Developing Society*, (New Delhi, 1983).

Interactive Relationship in the Affiliating System

D. A. Ghanchi*

Historical Background

Higher education in modern India has been shaped by very special historical forces generated by a colonial rule whose chief goals were political power without accountability, economic gain without investmental risks, and cultural domination without moral sensitivity. The pursuit of these goals required the colonial masters to evolve policies and establish structures that could serve their hegemonic designs.

The administrative system that was gradually built up to run the affairs of the state is an example to the point. It was deliberately developed as an impervious apparatus intended to serve the interests of an exploitative authority. And the government machinery and operational methods served as a model to other organisations including universities. The system of affiliation that was adopted for the universities in India right from the inception of the first three universities of Bombay, Madras and Calcutta, also accepted the form, contents and methods of administration used for running the government machinery of the state, which was not an agent of the will of the governed, but was an instrument of the designs of an imperial power. Naturally, it had in its body certain built-in traits that were in tune with the avowed goals of the colonial rule.

The Traits of the System

The various administrative structures and the modalities of their operation were evolved over years. When almost perfected, they possessed six traits which were peculiar to them. The tragedy of the Indian scene even after more than four decades of independence is that these traits persist in one form or another in various systems and subsystems, and challenge our democratic conscience. Let's examine them.

(1) **Hierarchy**: The system had considerable concentration of power at the top leading to centralisation of authority requiring those at the bottom to look above for orders. There was no empowerment of those at the grassroots to work on their own, and the scope for internal feeback in the system was almost non-existent because the top was considered a repository of all wisdom.

(2) **Formalism** : The system was required to conform to set rules and regulations that had to be observed in letter. In fact, it came to assume the form of rule-ridden tyranny as the form had become the be-all and end-all of the entire working of the system. Such a dispensation had predominance of paper work to the detriment of the spirit that lay behind the rules written on that paper.

(3) **Anonymity** : The system was notoriously impersonal as was basically ritualistic and formal. Though it was created to serve the interests of a human society, it ignored human considerations and became mechanistic. There was no involvement of human participants in the process of administration as it was based on the distrust of those who were to be governed and, strangely enough, also those who were at the lower rungs of the administrative ladder.

(4) **Bureaucracy** : A system dictated by formal rules, ignoring all human considerations, develops bureaucratic methods, both to sustain it and perpetuate it. And once an organisation is bureaucratised, we have procrastination, avoidance of responsibility, inaction, wastage of resources of all sorts and above all, corruption. It is more so in a third world country where poverty, ignorance, lack of education, backwardness and competitive politics provide a fertile soil for these evils to prosper.

(5) **Anti-change** : This type of administration is positively against any change for the better, for a change constitutes a threat to the very existence of a ruthless hierarchy. It is safe for a system to run on set rules, to be guided by precedents and to conform to traditions rather than invite the risk of the unknown by introducing a change either in the structure, or in the processes and methods of operation, or in the relationships among the human components of the system.

(6) **Reactivity** : Because the system is precedent-bound, it is reactive in its approach, rather than

---

**Pro-Vice-Chancellor, North Gujarat University, Patan (N.G.), Gujarat.*

proactive which only progressive, future-oriented and risk-taking organisation can be. This system is steeped into the past under whose cover it feels safe and unthreatened.

Naturally, therefore, the administrative framework that manifests these six characteristics operates as a manifold constraint on an organisation like a university, hamstringing it severely, and rendering it ineffective as a change agent in the world of today.

Mechanism of Affiliation

The relationship of affiliation between a university and its affiliated colleges is governed by the provisions of the relevant Act of the legislature. The Act lays down the parametres within which the relationship is to be operative. Normally an attempt is made to tread the middle path between the two extremes of a complete autonomy for colleges on one hand, and a total subjugation for them under the tutelage of an all powerfull university on the other. Various executive and academic bodies created by the Act and their powers and duties vis-a-vis the relationship between the university and its affiliated colleges are meticulously laid down. Affiliation of a college with the university entails several privileges and obligations on the part of the former. The letter is invested with wide ranging academic and executive powers.

The whole mechanism of affiliation works within the specified boundaries of the Act, and the statutes, ordinances, regulations and rules framed under it. The other boundaries may be laid by precedents and traditions. There may still be others created by exigencies like strikes by staff or students, or rush for admission to particular courses, or large-scale malpractices in examination or political factors of umpteen types found in a third world country.

The relationship of affiliation between a university and its affiliated colleges is characterised, to a large or small extent, by the same six features that the usual administrative system in the country manifests, namely, the hierarchical relationships among the various constituents, the formal approach to their problems and assignments, the alienation caused by the university, the bureaucratic ways of working *inter se*, the attitude of anti-change, and an ingrained tendency to be reactive in all vital matters of the organisation.

There is a statutory provision to ensure the association of the affiliated colleges within the various rungs of the university structure through election, nomination, cooption or invitation. Considerable heat and dust can be found in university elections. In fact, power politicking by all and sundry is almost an everyday phenomenon in university corridors, and as a result quite a few heads often roll, literally and metaphorically.

It should be accepted that the association of affiliated colleges, especially through electoral procedures, has yielded several political benefits like awareness of issues and problems of the university system, skills of organisations of public bodies based on differentiated manifestoes, methods of electioneering, modes of resistance and conflict resolution. However, it is not entirely a socially and academically harmless pastime. Power politics has dealt a grievous blow to academics in the universities and colleges of the country in more ways than one. The documents on the New Education Policy (NEP) and the Programme of Action have very rightly asked all concerned to pause and think about the damage wrought by politicisation of higher education in India and devise measures to remedy the situation.

The academic dimension of the association of the affiliated colleges with the universities has mostly remained limited to formalities pertaining to the survival of the system. For example :

(i) The colleges seek fresh affiliation or its renewal or its extension to newer subjects and the university normally grants it, often months after the de facto event has occurred. There is no fuss or quarrel over this, as there is no performance evaluation or monitoring going with the formality.

(ii) The colleges seek approval of the teaching staff in accordance with the norms of qualifications and workload prescribed by the affiliating university which all but sanctifies the decision of the college management.

(iii) The affiliated colleges seek permission for excess admissions to all sorts of courses, and the university obliges them to avoid unpleasant developments or distress, or both.

(iv) The colleges may plead with the university to readjust the duration of an academic session, to reduce the contents of a syllabus, to change a textbook, to alter the dates of an examination, or to modify the design of a question paper, and so on, and the university suitably responds to these representations to relieve tensions generated by real or feigned causes.

The list need not be lengthened as the sensitive issues are not too many. Most of the time, energy and intellectual resources of the affiliated colleges and the university are spent on these, and once peace and order are ensured, all wait for the academic term or year to conclude on a happy note. As expediency would have it, it is not an undesirable goal to make peace, harmony and order prevail on our campuses. The working association of the affiliated colleges with the university to guarantee this minimum requirement for a climate conducive to academic pursuits in the affiliated colleges is a contribution by them, howsoever limited it is, towards the efforts of the university to disseminate knowledge. But this is not enough. The associative relationship that has been hitherto developed through affiliating bonds between colleges and universities need to be preceived in a new context, that of interactive partnership, in order to make the colleges more dynamic and more effective vehicles of higher education, for in an egalitarian society participation and involvement are the hallmarks of all activities designed to promote the welfare of the people.

Interactive Relationship

The formal relationship that has developed between the affiliating university and its affiliated colleges is the product of the impact of various historical factors that have operated on the system in league with a number of forces—social, political, cultural and economic. The uppermost concern in the minds of university authorities, college teachers, principals, parents, community and the government has hitherto been peace and order. Besides, the perception of their roles has been considerably influenced by the six-fold distortions that have crept into the administrative system of affiliating universities as a hangover of the colonial past. No doubt, therefore, the affiliated bodies rest content either by engaging themselves in selected politicking activities, or by obtaining token benefits through formal sanctions from the affiliating university.

As a consequence, meaningful collaboration does not take place between the twin agencies whom the law of the land seeks to ordain as partners in the enterprises of higher education through the mechanism of affiliation. The way out of this situation is the replacement of the associative relationship by an interactive relationship. This can be done through a series of steps to be taken over a long period of time. In fact, it should be an on-going process, rather than a single-shot affair, like legislating an Act. Some of the steps are suggested below :

(1) Universities should do a lot of self-searching to rid themselves of the six different infections that might have contaminated their various systems and sub-systems. This would need a deliberate exercise in self-exercising. It would be beneficial to evolve a built-in mechanism in the university system—may be a cell or a working group or a task committee or an ombudsman—that should set in motion a continuing process of transforming the university, its bodies, its personnel, and its methods of work and interaction with affiliated colleges.

(2) Various legal provisions in the form of the Act, statutes, ordinances, etc. should be suitably amended in order to make them more positive mechanism making it mandatory for all to interact, both reactively and proactively. Measures should be incorporated to put an end to pernicious politicking without at the same time thwarting legitimate political activities. This is indeed, a delicate and hazardous job requiring intellectual honesty and moral courage on the part of all.

(3) Participation of affiliated colleges in the deliberations of the various bodies of the affiliating university should be expanded in range to cover maximum possible areas, and should be enhanced in its quality and effectiveness by according it due weight and recognition. All contribution that promises to make a significant impact an any dimension of higher education should be publicised widely and due credit given to the contributor.

(4) Institutional interaction can be made more fruitful by motivating individual participants through appropriate inputs in the form of specific training exposures and support material. College principals and teachers of all categories should receive these inputs, their performance be monitored and feedback provided to them through performance evaluation and counselling. The academic staff colleges established under the NEP can play a pivotal role in this direction.

(5) Lastly, the affiliating university should identify areas for interactive exercise in the following major fields :

(a) Academic field, including curriculum, subject syllabuses, restructuring of courses, learning material, evaluation procedures and innovations in higher education.

(b) Pedagogic field, including teaching methods, educational technology, innovations in teaching and learning, in-house training of faculty members, etc.

(c) Social field, including extension services, linkages with business and industry, social service through NSS, resource generation through community participation, etc.

(d) Cultural field, including projects to preserve and promote local culture, education of values, development of wholesome attitudes to different cultures, inculcation of scientific temper and growth of democratic citizenship.

(e) Administrative field, including sharing of leadership role, decentralisation of authority and responsibilities, group dynamics, grievances redressal, conflict resolution and management.

Conclusion

The traditional affiliating model of the university has been too formal, impersonal and inflexible an instrument shaping the relationship between the university and its affiliated colleges. In the years to come, despite our ardent desire to evolve the autonomous model of colleges, we will have to continue the affiliating model for various reasons.

It is, therefore, an educational imperative on our part to make the affiliating model academically more productive by infusing in it the chemical of interaction. That is likely to change the attitudes of both, the university and the affiliated colleges, towards each other, and towards their mission of higher education. The abundant reservoir of energy that the affiliated colleges have in them will be put to maximum use as they engage themselves in a collaborative venture with the university and, through it, among themselves. ☐

COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

Joint CSIR-UGC Junior Research Fellowship Examination 1988

ADVERTISEMENT NO. 2-9/88 — E.U. II

The Council of Scientific & Industrial Research will hold a national level joint CSIR-UGC Examination on Sunday, the 22nd January 1989 for determining the eligibility of candidates for the award of Junior Research Fellowships to Indian nationals in the six subjects viz. Life Science, Physics, Chemistry, Earth, Atmospheric & Ocean Science, Mathematics and Statistics.

Value & duration of Fellowship

The value of the fellowship is at present Rs. 1800/- per month. A contingent grant is also paid on per annum basis.

The duration of the fellowship will be initially two years with possibility of further extension & enhancement of stipend as per rules of the Council.

Conditions of Eligibility

i. Candidates who have secured at least a second class Master's Degree or equivalent in the relevant subject are eligible for the examination.

ii. Those who have appeared or are in the final year or will be appearing at the qualifying Master's Degree Examination and whose result is still awaited or whose examinations have been delayed, may also apply. However, such candidates will be considered eligible for award of fellowship and permitted to join the research after they have passed the Master's Degree Examination with at least second class or equivalent in the relevant or related subject and have qualified in the JRF Examination.

iii. The upper age limit for admission to the examination is 28 years as on 1.7.1988 relaxable upto 5 years in case of SC/ST candidates, and those having experience of research or training.

For full details with regard to the eligibility conditions, syllabus, etc. including the application form, please see Employment News/Rozgar Samachar issue dated 22.10.1988 published by the Publications Division, Ministry of Information & Broadcasting, Govt. of India, East Block-IV, Level-7, R.K. Puram, New Delhi-110066. The application form may either be cut from the said Employment News or copied from it. The application form duly completed in all respects should be either delivered by hand or sent by post to the **Controller of Examinations, Examination Unit, CSIR Complex, Dr. K.S. Krishnan Marg, Pusa, New Delhi-110 012** so as to reach him latest by **21.11.1988 (28.11.1988** in case of candidates from States/Regions mentioned in para 1 of notification published in this regard in the Employment News dated 22.10.88).

The United States Educational Foundation in India

"Fulbright House". 12 Hailey Road, New Delhi-110001

1. **Program Officer :** This is a senior position which involves the planning and administration of the academic programs of the organization, selection of Indian scholars, seminars and conferences; placement and programming of visiting foreign academics, etc.

   Candidates must have at least a Master's degree and 10 years' experience in administration in a similar organization dealing with educational programs and must be familiar with the system of higher education in India. Teaching experience should be desirable.

   Postgraduate educational experience in an American university would be an additional qualification.

   Age preferably not more than 50 years.

   The position is in Grade VI—Rs. 4100-125-4975-150-6025-200-6625.

2. **Program Coordinator :** This is a middle level position which involves coordination/execution of programs of the organization. The selected candidate will assist the Director/Program Officer in the organization of seminars and lecture programs for visiting foreign academics, selection of Indian Scholars, Alumni activities, etc.

   Candidates must have at least a bachelor's degree and experience in organization and coordination of programs.

   A postgraduate degree would be desirable.

   Age preferably not more than 40 years.

   The position is in Grade V—Rs. 2875-75-3100-100-4100-125-5475.

3. **Fiscal Manager :** This is a middle level position which involves supervision of fiscal work of the organization, developing fiscal procedures and work methods, maintaining accounting books and fiscal records, compiling summary reports/statements, providing data for preparation of financial reports and other budget statements.

   Candidates must have a university degree in commerce and progressively responsible experience in the accounting and management field.

   A postgraduate qualification would be desirable.
   Knowledge of PC and financial management system required.
   Knowledge of diverse accounting and fiscal procedures and regulations of various U.S. Government agencies desirable.

   Age preferably not more than 40 years.

   The position is in Grade V—Rs. 2875-75-3100-100-4100-125-5475.

General : In addition to the basic pay indicated above, perquisites include cost of living allowance, housing (rent) allowance, CCA and other terminal benefits as per rules.

The above positions will be on a contract for 5 years, renewable on review of performance. Initially, the postings will be in Delhi but the positions are transferable within four regional offices of the organization located in Bombay, Calcutta, Madras and Delhi.

Apply in confidence **within 15 days** from the date of the appearance of this advertisement to the above address.

Science and Technology Education

Dr. S. Muthukumaran, Vice-Chancellor, Bharathidasan University, delivered Dr. A. Ramaswami Mudaliar Memorial CSIR Foundation Day Lecture at the Central Electro Chemical Research Institute, Karaikudi on 26 September 1988. We are pleased to publish excerpts of this thought provoking lecture for the benefit of our readers.

The importance of Science and Technology Education in a vast country like India cannot be exaggerated at any time; more so at this juncture of the history when we are making a deliberate bid to catch up with the forerunners in the development race. A late starter in the development process, India is encountering many new difficulties which were never experienced by the developed nations during their corresponding initial or intermediate stages of development effort. For instance, the very question of the type of technology and technology education which we need today to suit our local conditions of resource endowment has become a ticklish one. Ours is a capital scarce and labour surplus economy. We have to provide remunerative employment to the teeming millions of people, especially in rural and semi-urban areas. But most of modern technology is labour saving and capital deepening. And our technological research and education have all been aiming at evolving new and newer technology which is more and more labour saving and quick yielding. In short, there is an inevitable inherent conflict between what we have on hand by way at technology and what our hands require and can afford to.

The technology which was evolved over a century and more, through trial and error process during industrial revolution of United Kingdom and other Western nations, has come to our doorstep overnight with a bang. We have no other option than to accept the given technology though it is not in tune with our resource position and requirements. We cannot reverse the gear and go back to intermediate technology as it was evolved during the industrial revolution for the simple reason that such a technology is not readily available any more. We have the most primitive technology on the one hand and the highly sophisticated technology on the other. Paradoxically, both these co-exist today in India in the form of "technological dualism." Hence we are forced to be at crossroads as far as the choice of technology and technology education are concerned.

Technology Policy of India

Let me not be misunderstood that I am anti-modern technology. I am only stressing the fact of the situation we have in our midst. The technologists are constantly appealed by the public and policy makers to contribute their mite to the existing low technology or primitive technology sectors, particularly in the rural India. The technological research and education have been suffering from urban bias. The local or regional relevance in research has not been given the due attention it deserves. Even in the case of the industrial Science and Technology the situation is no better. As Dr. Raja Ramanna, former chairman of our Atomic Energy Commission has observed, "There is no link between applied science and industry. Technologies developed by the national laboratories are like solutions seeking for a problem". The research has to be directed more towards "problem-solving" than towards seeking purely theoretical or fundamental knowledge. Not that the latter is unimportant but it is rather a luxury of research which the affluent nations can better afford to. Our task and priority may be to take the cues from the fundamental research and develop the methods of application necessary and relevant to the local conditions. This is not my personal advocacy but the policy goal of the nation and its government. The Department of Science and Technology, Government of India in the Technology Policy Statement of January 1983 announced this, in unequivocal terms : "The use and development of technology must relate to the people's aspirations. Our own immediate needs in India are the attainment of technological self-reliance, a swift and tangible improvement in the conditions of the weakest sections of the population and the speedy development of backward regions. India is known for its diversity. Technology must suit local needs and to make an impact on the lives of ordinary citizens, must give constant thought to even small improvements which could make better and more cost effective use of existing materials and methods of work".

Aspirations of Indian Scientists

All said and done, the scientists, by and large, are understandably not interested in research of local relevance. The reason is obvious. Most of such locally relevant research generally does not receive international recognition or acclamation. A researcher working on, say, improvisation of bullock cart or wooden plough can never hope to attend an international seminar unless he himself organises one ! Nor can he hope to publish an article in an international journal. Even the funding agencies in our own country may feel shy of funding such research projects. Such being the hazards of "locally relevant" research, can any scientist ever come forward with a research project on an indigenous problem ? So, for the reasons best known to the Scientists, the locally relevant research is still a distant dream. If we are really interested in the application of Science and Technology to solve the day-to-day problems of the rural masses, we may have to substantially change the "values" in Science. We have to appreciate and recognise the merit of a researcher interested in a local problem *per se*. Whether he is recognised in an international forum or not or whether he has made frequent foreign visits or not, we have to institute a reward system which can suitably encourage the scientists who concentrate on local problems either industrial or agricultural.

Central Electro Chemical Research Institute

In this context, I have no hesitation in commending the contributions of Central Electro Chemical Research Institute in the most application-oriented industrial research in the frontier area of Electro-chemistry. During the last three and a half decades of your performance, you have grown like a banian tree having sound research footing in the fields of Batteries and Fuel Cells, Corrosion Science and Engineering, Electro-hydrometallurgy, Electropyrometallurgy, Electronchemicals and Electrothermics, Electrochemical Material Science, Industrial Metal finishing, Electrodics, Electro-biology and Pollution Control, and Electrochemical Instrumentation.

Looking at the excellent Research and Development work, your institution has accomplished, I am convinced that the observations of premonition made by Dr. Shanti Swarup Bhatnagar, the first Director of Council for Scientific and Industrial Research on the occasion of laying the Foundation Stone of the Central Electro Chemical Research Institute in this very same campus, has come true in abundance. He anticipated about 40 years ago the significance of research in Electrochemistry as follows: "Electrochemical processes have completely revolutionised the production of certain primary products such as chlorine, sodium, hydrogen peroxide and aluminium and permitted the development of new secondary industries utilising cheaper raw materials... ... ... Coupled with electric power, the availability of key raw materials and cheap labour will doubtless lead to a vigorous and multi-directional growth of our electro-chemical industries".

In addition to these branches of research which mostly lead to industrial application, it is very interesting to note that you have stretched off into rural research and development. I understand that the Rural Science Forum of your institution has made a good beginning in undertaking research and extension projects benefitting the rural sector in and around Karaikudi region.

In the thickest clouds of vociferous criticism and sarcastic comments in some quarters on the white elephant nature of research output by some of the national laboratories, the achievements made by your institution make a silver lining. I understand from one of your brochures that you have so far developed 132 technologies, 16 of them on turnkey basis, and transferred more than 90 technologies to over 200 parties, and you have earned a royalty of Rs. 175 lakhs for the processes. No one can call these as mean achievement. Above all, there is an encouraging estimate that utilisation of Central Electro Chemical Research Institute technology has enabled a saving of 430 million units of power valued at about Rs. 43 crores. The need for such power saving technology is very much relevant to the industries in this part of the country whose major bottleneck has been the power shortage and power uncertainty all the time.

Indian Research Output

The quality and the cost effectiveness of the Science and Technology output are as important as the quantum There has been a general apprehension that Indian scientists fare poorly when assessed for two important indicators of their output : publications in research journals and patents applied for. According to one report, about two thirds of the research papers published by Indian scientists appear in the 500-odd journals brought out in the country. A recent survey done by the information and Publicity Directorate of the Council of Scientific and Industrial Research found that there is a very low standard of "refereeing" of the papers and Indian journals are hardly cited in the publications abroad. As the study observed, "Indian journals serve as a sink of information and not as a source". Another study found that on an average, one out of four scientists publish papers annually. The cost to the nation works out to Rs. 5 lakhs for each paper published, a highly expensive one and on top of it, the average paper is hardly quoted by others. Similarly, when we turn to the number of patents and their applications in industry, it is reported that the national laboratories develop on an average just one new process each annually. Worse, there is so much duplication of research that currently as many as nine processes have two or three laboratories competing for similar patents.

Our research in Science and Technology as it stands today excepting a few islets of excellence here and there, is neither internationally recognised nor locally used. One reason for this is, that we do not publicize our acheivements and capabilities. We are perhaps lacking in salesmanship. We do not make available. information on our achievements to those that will use the same. We do not make available, the details of our technical potentialities to those who may need them. We lack courage to point out to the general public and men in responsible positions, that sometimes our public sector or private sector industries import technical knowhow in spite of the fact that the necessary knowledge and skill are readily available within the country.

I am recounting all these "lowlights" not with a view to dishearten the young scientists but to drive home the point that our Science and Technology output is not commensurate with the expenditure incurred by the society on us and what little we do is also not put to beneficial use. We have to necessarily become impatient and do something on our own within our system, without shifting the blame on others. Given the constraints and challenging circumstances, the scientists have to positively respond, optimise their output and made it socially useful.

University Institute Cooperation

Now let us examine what I consider as the crux of the problems affecting the status of Science and Technology Education and the scope and the need for linkages between the university system and the national laboratories. As our National Policy on Education of 1986 points out in its Programme of Action, there is an immediate need "to foster formal links with various research agencies, to link education with research and to identify tasks that could be undertaken within the university system".

The cream of the students, at the entry point to the University education, get attracted to the professional courses of engeering and medical sciences. These professional colleges turn out these bright youngsters as career Engineers and Doctors. These Engineers and Doctors are busy making a prosperous living by being self-employed or working for other concerns. A brilliant engineering graduate or a medical expert is soldom attracted to the teaching-cum research positions in the professional colleges. So, in the Departments of Medical and Engineering Colleges, only a "profession creating and profession perpetuating phenomena" is found and not much applied research work is carried out. Very few teachers in these colleges bestow their attention to research. The students, having been primarily professionally motivated, are also the least inclined to respond to research directions. Thus, the best segment of our student stream never cares to think creatively and apply their calibre for evolving new and relevant technology.

The vast infrastructure available in these professional colleges as part of the University system have enough potentialities for more fruitfully utilising these resources by interacting with the national laboratories and the Research and Development wings of the industries located in the neighbourhood of these institutions. But there must be a system of incentives and rewards, which can induce the faculty members of the professional colleges and other constituents of the University system to undertake the Research and Development projects on a consultancy-contract basis. I think that in a market system, nothing works out unless there is an incentive. Both the seller and the buyer of the commodity must consider the transaction as profitable ; otherwise no transaction shall take place. The existing rules and regulations governing the service conditions of the faculty members in the University system including its affiliated colleges have to be radically relaxed; the teachers must be liberally allowed to take-up projects for consultancy charges, permitting a reasonable amount of the total contract revenue to them. At present the University setup does not foster any consultancy work by the teachers. In this context, let me draw your attention to what happens in British educational system, supposed to be the most conservative and tradition bound. According to a report from the London Press Service, "Britain's educational institutions are undergoing big changes. The image of dreamy spires and academic remoteness has given way to a realistic commitment to today's problems. Encouraged by the Government. the universities and colleges are increasingly making their knowledge, research and expertise available to commerce and industry and, in doing so, are earning big money. The centres of advanced learning are still committed to educating tomorrow's policy makers, planners, scientists and artists, but in commercialising their research projects, they are making a greater and more immediate contribution towards mankind's welfare. The Government encourages industry to exploit the abundance of ideas in this sector. Consequently, the universities are now earning 635 million from selling the results of their research projects to industry and commerce. The Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom is now publicising the commercial achievements of university research and will be issuing a new booklet on what British educational institutions can offer worldwide".

Should we not also change, better late than never ? Are we going to waste the vast infrastructure in the University by confining to mere pedagogy and nothing more ? How long do you think can our poor tax payers tolerate such sheer wastage of resources ? Should we not come out of our ivory tower of academic learning and intergrate with the realities of the practical world around us ?

The nature of Science and Technology Education and Research in the University system happens to be much more abstract and theoretical than the research in the national laboratories. The reasarchers in the University system primarily work for earning their Ph.Ds. You will concur with me when I say that most of the Ph.D. theses of the Universities are theoretical and are the result of laboratory experiments, conducted under controlled conditions. The commercialisation of the ideas generated in such theses is again another matter, requiring substantially additional inputs. It will be apt here once again to quote the document on the Programme of Action, National Policy on Education 1986 : "Research and Development Programmes exist in many technical and management institutions, universities and other research institutions. The main focus appears to be on exploration for developing new knowledge rather than application of knowledge for enhancing production and productivity. Designing and implementing research programmes relevant to the changing requirements are not undertaken on a wide enough scale".

I believe that the experts and their laboratories in about 150 University areas have to be functionally related with about 100 national laboratories as a first step towards re-orienting Science and Technology Education. The interaction must be more than formal. They must work together and use the facilities available by mutual exchange of manpower and equipments. I may suggest that the experts of your institution for instance, join as the visiting faculty in Alagappa University, Karaikudi or Bharathidasan University, Tiruchirapalli to offer a research-cum-training course on a contract basis; similarly, the experts in these Universities may by permitted to collaborate with their counterparts in your institution in the consultancy-based Research and Development Projects. The equipments in both these systems must be freely accessible to the researchers belonging to either side.

I am confident that the leadership of this national laboratory will take the initiative and be a model in planning and executing such programmes of interaction with the Universities in this part of the country. I am sure that the University Departments will be benefited most by such co-operation with an advanced centre like this. The ultimate benefit should be reflected in the high quality Science and Technology Education. The University and Notional Laboratory linkage will certainly be able to produce once again eminent scientists such as Sir C.V. Raman, Dr. Bhatnagar, Homi Bhabha and Vikram Sarabhai.

The Future

No human being can foresee with certainty, what the future holds for us. But we can always hope for the best and plan for the future. Our Honourable Prime Minister Thiru Rajiv Gandhi, in his address to the Indian Science Congress held at Pune on 7th January 1988, while advising the scientists as to what the society expects from them in the future had drawn our attention to the following four frontiers of Science :

1. Elimination of Poverty
2. Challenges of Self Reliance
3. Towards Excellence
4. Frontier of Peace

In our country, the top priority in the planning effort goes towards Elimination of Poverty. Even though our Indian Scientists have achieved much in the fields of foodgrain production, increasing our life expectancy and the like, much more needs to be done in many other areas. We must take Science and Technology to the villages. Scientists owe a great debt to society, as their education and training are heavily subsidised by the Government from out of the taxes collected by it from all sections of the society. The society, especially the rural poor work hard to pay the direct as well as indirect taxes. The scientists could repay this debt only by working for the upliftment of the villages. We should not forget what the Mahatma said : "The strength of a chain was in its weakest link". If a section of the people in the national chain continued to be weak, then the strength of the whole nation is affected. Taking Science and Technology to the villages will strengthen them and as a result, we can strengthen ourselves as a nation.

Not only that, help must be given to those that are in need of help. Those that are really in need of help are the rural poor. You are now concentrating most of your efforts to help the major industries. As we often hear and also as referred by me earlier, if they do not want to use your expertise and are looking at other countries for proven technology, forget them and turn to those that are expecting so much from you. I would request you to go to the villages and help them. They will receive the help with gratitude. Thiruvalluvar said :

> "The kindly aid's extent is of its
> worth no measure true,
> Its worth is of the worth of him
> to whom the act you do".

The value of a help rendered, is not based upon the value attached to it by the one who helps, but depends upon the value attached to it by the one who receives. You will also have the satisfaction of having achieved the desired progress and important social objectives of Elimination of Poverty and Self Reliance.

This takes us to the next frontier mentioned by our Prime Minister, namely, Challenge of Self Reliance. Our Scientists have achieved many things in the areas of peaceful uses of nuclear science, fabricating and launching of satellites, defence needs, etc. and made us to feel proud of them. I quote from our Prime Minister's speech again: "The lesson from experience is that if we concentrate on our effort, put our brains where our needs are, we can do it. What restrains us in our timidity, our tendency to continue with the old and the familiar. We must not be inhibited. We should boldly sieze what is new, examine the opportunities and adopt what suits us. We should let the adventure of discovery and spirit of invention take us forward to meet our goal. The nation looks to its scientists to help policy makers to determine scientific, time bound objectives in major areas of national endeavour".

The third challenge that has been referred to by our Prime Minister is the challenge of achieving Excellence. I would like to point out that whatever we foster, nurture and encourage, will grow. Unless we make a determined effort to foster excellence, we will never be able to attain the same. We may be doing well in many areas of Science. But we should not be satisfied with what we have done. We should seek to attain Excellence in every area of Science, with which we are concerned.

Lastly, our Prime Minister has impressed upon the scientists that science must warn mankind of impending dangers that are sometimes associated with the progress of research in science and technology. We need to be doubly cautious in some of our experiments in the frontiers of science.

Apart from the four frontiers of science referred to by our Prime Minister, I would like to draw your attention to the necessity for a spirit of dedication among the scientists of an institution, so as to keep up the morale of the institution. Every institution is born with some objectives. The idealists and the visionaries may envisage the establishment of an institution. In course of time, people accept the idea of the establishment of the institution. The institution gets established and it grows with the joining of more individuals, who subscribe to the objectives. The idea with which the institution was established is attained and the institution in due course, acquires material resources and grows. But the life of the institution depends upon the spirit of the mind and heart of the individuals drawn to it and the work that these people do with an involvement, provides the needed vitality. With the growth of the institution, the individuals belonging to the institution also grow. The individuals benefit by the growth of institution. The individuals may gain material benefits. They may gain by their growth towards the objectives. They may gain by their power to give assistance to others and finally they may gain by way of the joy that they get in their dedicated service to the organisation and its objectives. A time comes, when the original idealists and others around them move out from the institution due to retirement from service or migration to other establishments or the like. But the institution stays on. The institution may go on well for some time and then a decline may start. The time of setting of decline may vary from institution to institution. The forces of decline take over the institution when the spirit of dedication of those individuals in the institution sags. When spirit of dedication sinks, the joy of service disappears, and there is a craving for the benefits which can be received from the institution. There is a desire for rest. There is an attitude for taking shelter under bygone reputation and enjoying of the fruits of the work done earlier. With this desire for rest comes stagnation. The desire to grab the fruits stifles the spirit of giving. Everyone thinks of what he or she is likely to receive from the institution; nobody thinks of contributing his or her mite to the institution. At such a stage, the decline of the institution may become inevitable. I would only beseech upon you to periodically review your working and rededicate yourself to the cause of the growth of your institution. Only such dedication will sustain the steady growth and progress of yourself and your great institution. □

INDIAN VETERINARY RESEARCH INSTITUTE

IZATNAGAR-243 122 (U.P.)

ADMISSION NOTICE

A Competitive Written Examination for admission to the 1st year of IVth Academic Session (1988-89) of **Doctoral Degree Programme** in the following disciplines, will be held on **Monday, the 26th December, 1988** at **Izatnagar** Centre :

Doctoral Programme [Ph. D.]

1. Animal Breeding
2. Animal Genetics
3. Animal Nutrition
4. Animal Physiology
5. Animal Science Extension
6. Biochemistry
7. Poultry Science
8. Livestock Products Technology
9. Veterinary Immunology
10. Veterinary Bacteriology
11. Veterinary Parasitology
12. Veterinary Medicine
13. Veterinary Pharmacology
14. Veterinary Pathology
15. Veterinary Virology
16. Veterinary Surgery

Eligibility

(i) At least 60% marks in aggregate (55% for SC/ST) in Master's Degree Examination in the relevant subject.

(ii) A good knowledge of English is essential.

How to Apply

Application form together with the Information Bulletin can be had personally from the University **Office** of the Institute on cash payment of **Rs. 15**/- or through post by sending requisition to The **Assistant Administrative Officer [Academic], IVRI, Izatnagar (UP)-243122**, along with a crossed Bank Draft of **Rs. 25**/- for each form, drawn in favour of **Director, IVRI, Izatnagar**, payable at State Bank of India, CARI Branch, Code No. 7027, Izatnagar, accompanied by a self-addressed unstamped envelope measuring 28 cm × 20 cm. The application form may be obtained on cash payment at the **University Counter** on any working day between 10.30 AM to 1.00 PM and 1.00 PM to 3.30 PM.

Note

(i) 60% marks will be considered equivalent to an OGPA 2.10 out of 3.00; 2.80 out of 4.00; 3.50 out of 5.00 and 7.00 out of 10.00 GPA systems.
55% marks will be considered equivalent to an OGPA 1.94 out of 3.00, 2.58 out of 4.00, 3.23 out of 5.00 and 6.45 out of 10.00 GPA systems.

(ii) Candidates who are appearing in the qualifying examination prescribed for admission to a particular programme, are also eligible to appear in the Competitive Examination provided they submit final Marks Sheet/PDC by **26.12.88** otherwise they will stand disqualified.

(iii) A candidate may indicate two disciplines of his choice in order of preference in the column provided in the Application Form according to the eligibility qualifications.

(iv) 15% and 7.5% seats are reserved for SC and ST candidates, respectively.

(v) The SC/ST candidates called for written examination will be paid travelling allowance limited to IInd Class Railway fare both ways on production of Caste Certificate and evidence of journey performed.

(vi) The selected candidates shall be required to stay to join the course from **2nd of January, 1989**.

(vii) Final selection will be based on academic career and performance in the competitive examination.

(viii) The venue, date and time table for Examination are available in the Information Bulletin.

(ix) Financial assistance in the form of **IVRI Senior Fellowship** shall be offered to the selected students on certain terms and conditions.

(x) **No. of Seats** : 2 to 5 in each discipline.

(xi) Application forms will be issued from : 10.11.1988

(xii) Last date of receipt of requisition for supply of application forms : 20.11.1988

(xiii) Last date of receipt of the application forms duly filled in : 30.11.1988

REGISTRAR

SAMBALPUR UNIVERSITY
A Profile

Sambalpur University played host to the 218th Meeting of Standing Committee of the AIU on 5th November, 1988. Sambalpur represents *a powerful sub-regional kingdom of ancient times called* South Kosala which now forms an important part of the Orissa State. In what follows, we publish a profile of the Sambalpur University for the benefit of our readers.

After almost two decades of the creation of Utkal University at Bhubaneswar, the Government of Orissa fulfilled the legitimate claim of Sambalpur in having a University of its own. The University of Sambalpur was established on 1st January, 1967 during the Fourth Five Year Plan period with Dr. Parasuram Misra as the first Vice-Chancellor. The Postgraduate Teaching Departments were created in 1969. In 1972 the University Office and the Teaching Departments were shifted from Sambalpur to the new Campus at Jyoti Vihar. The University has within its jurisdiction all the educational institutions of Sundargarh, Sambalpur, Bolangir and Kalahandi districts. The Colleges of Athamallik sub-division of Dhenkanal and Boud sub-division of Phulbani districts have also been included within its jurisdiction. It is both an affiliating and constituent University having approximately 85 Degree Colleges, 16 Postgraduate Departments, one College each for Law and Medical Science and two Engineering Colleges.

In the Fourth Plan period the University Grants Commission approved the opening of Postgraduate Departments in Physics, Mathematics, Chemistry, Life Sciences, History, Economics, Political Science, English and Oriya. During the Fifth Five Year Plan new Departments in Statistics, Anthropology and Sociology, Library Science and Home Science were opened. The Sixth Plan period witnessed both consolidation of the old Departments and creation of new ones in Earth Science and Law. Considering the job potentiality and growing demands of the students, the authorities decided to open Postgraduate Diploma in Library Science as well as Bachelor programme and Computer technology in the Seventh Plan. In fitness of things they also decided to introduce two separate courses for Anthropology and Sociology and commensurate with the requirements of teaching, posts of Professors, Readers and Lecturers and non-teaching posts were created in adequate number. With the introduction of M.Phil courses in 1980 the University Grants Commission was moved to release senior teaching posts to ensure proper guidance and supervision of research projects.

The University received liberal financial grants to improve physical facilities of higher education and research, Like library Grants, grants for equipments and laboratory provisions, hostels, sports complex, cafetaria, students' common room and recreational facilities. Recently grants have been received for a Music Choir, Stadium and Swimming Pool.

The University has a College Development Council for the upliftment of the standard of teaching in the constituent and affiliated Colleges. There is a Director with ancilliary staff.

The National Adult Education Programme has been taken up by the University to educate the illiterate segment of the tribal people and other weaker sections of the society. There is a Director with Project Officers, Programmers and other ancilliary field staff to execute the scheme.

There are atleast 50 National Service Scheme Units with a volunteer strength of 5000 working in 50 colleges of the University. The NSS provides an opportunity to the students and the teachers in taking part in various nation building activities like—afforestation, eye camps, adult education, and drive against illiteracy. The units are trying to implement programmes relating to environmental improvement, economic development, non-formal education, family welfare, child care and various measures connected with rural development. There is a Programme Coordinator to supervise the scheme.

The University provides opportunities to the multidimensional growth of students' personalities. The students union in the Postgraduate Departments and affiliated colleges cater to this aspect. Through the unions the students organise various cultural programmes and competitions. They bring out popular literary magazines. They also have other forums for drama, athletics, study tours and quiz tests. Centrally, one-Act Play competitions are held at Jyoti Vihar besides musical and elocution competitions.

The Postgraduate Departments

regularly organise Seminars, Workshops and Conferences. Recently, the Departments of Life Sceinces, Enlish, Oriya and History held National Seminars on academic problems with the financial assistance of the University Grants Commission. The teachers represent the University on different learned bodies and associations of national and international importance.

There is a provision for extramural lectures.

In sum, the University of Sambalpur has two constituent colleges, namely, University College of Engineering and L.R. Law College. The enrolment in each of the Colleges is 905 and 916 respectively, out of which ladies' enrolments are 30 and 40 respectively.

In addition 76 colleges are affiliated to the University. The major colleges are Veer Surendra Sai Medical College at Burla (Sambalpur) and Regional College of Engineering at Rourkela. Both of these offer Master's and Doctoral programmes. Some of the other 20 Colleges also offer the same programme in Humanities and Science subjects. The University has from this session introduced the 5-Year Law Degree programme as recommended by the University Grants Commission. This is the first in all the Universities in Orissa and the second one in India after Calcutta University.

The main campus Jyoti Vihar which offers only Postgraduate studies has a student population of 870 out of which 307 are ladies. Most of them are boarders in four Gents' and three Ladies Halls of Residence.

The teaching staff, at present, numbers 120. There is a provision for extra curricular programme of out/indoor sports, music and dramatic arts.

The organisation of the East Zone Inter-University Youth Festival at Jyoti Vihar from 12-15 October, 1988 marked the significance of an important aspect of University life. ☐

WHY EXAMINATION REFORMS ?

The Students' Union of Mahatma Gandhi University, Kottayam organised a 3-day workshop on Examination Reforms on October 21-23, 1988. The participants to the workshop consisted of elected representatives of Students' Union, a cross section of academically bright students, teachers from affiliated colleges, administrators and officers of the Examination Section of the university. In his keynote address Dr. V. Natarajan, Director (Research), Association of Indian Universities drew the attention of the participants to certain basic issues that have to be tackled before launching on a systematic programme of reforms, changes and innovations in examinations. He suggested :

1. A thorough restructuring of syllabi in various subjects to include details like breaking down into units major topics, minor topics, breadth and depth of these topics, interrelationships, students abilities and skills to be developed, teaching methods and aids to be used and methods of evaluation.

2. In terms of frequency of examinations, a semester system when introduced will involve more number of examinations frequently and efforts must be made to get the affiliated colleges to share the responsibility of conduct e.g. first, third and fifth semester examinations to be conducted by colleges under guidance and supervision from the university and the second, fourth and sixth semester by the university.

3. Restructuring of question papers on a pattern of question paper like :

Part I : objective type : 20-40 items ; 20-40 mts: 20-40 marks

Part II : Short Answer questions : 10 to 20 questions; 50 to 100 mts; 30 to 60 marks.

Part III : Long Answer questions; 1 to 3 questions: 20-60 mts., 10 to 30 marks.

This restructured pattern will not only ensure better content validity but also minimise possibility of selective teaching by teachers, and selective study by students. Unless the question paper is restructured in the manner indicated, there will be no gain whatever by instituting a question bank as a reform measure.

4. In the matter of choice in question papers. only internal choice should be allowed in the Part III Long Answer questions and no choice in Parts I & II.

5. In the matter of paper setting and examining only teachers with recent teaching experience in the subject be involved in both paper setting and examining. Central evaluation, if properly organised will bring in speed, accuracy, reliability and efficiency of post conduct stage operations.

6. In the matter of question banking, a large number of a variety of items and questions (selection as

well as supply) must be prepared by a large body of teachers after orientation and training through leadership and secondary workshops and prevalidated to associate every item/question with characteristics like objective being tested, level of testing, time for answering and marks to be awarded. A question bank has to be prepared by teachers of the university and some select students and must be a dynamic and continuous affair. Also recourse can be made to question banks already in existence.

7. With regard to continuous internal assessment, adherence to the basic principles, namely, (a) internal assessment must concern itself with assessing those abilities and skills which are not assessed by end university examinations, (b) a grading system rather than awarding marks for internal assessment, and (c) internal assessment grade should be shown separately from end university examination.

Teachers teaching a particular subject should come together and with the help of a detailed questionnaire, design details of internal assessment in their subject to include objectives, tools and components to be used, ways and means of implementing these tools, recording assessments and finally making them open to build credibility.

8. In the matter of grading, the errors in the marking system were highlighted and it was made clear that a 100 marks paper has a minimum standard error of 5 marks. A mark like 59 obtained by a candidate has no meaning and that it is more honest and fair to say that his mark can fall between 54 and 64. Grading system be introduced to bring in uniformity in assessment amongst various disciplines and also amongst various subjects in one discipline. As an interim measure, the answer scripts can continue to be marked and grades awarded with the help of conversion table in every subject. Preparation of such tables in each subject must take into account the distribution of marks in the previous 3 years.

9. Introduction of semester system would be more meaningful to students, teachers and administration even though all of them are called upon to do an extra bit of work. There can be flexibility in the matter of choice of courses by students and suitably designed credit system will bring in a climate of learning into the university. Semester system can be initiated in both postgraduate and undergraduate courses simultaneously. However, there should be adequate preparation to inititate semester system by way of syllabus restructuring, training and orientation of teachers, students and administrators and a datailed plan of action to implement.

Participants in 5 different groups, each group consisting of representatives from all the interest groups, deliberated upon these issues with the help of specially prepared questionnaires. After detailed discussions and deliberation, the groups came out with consensus and made the recommendation.

The University Students Union President, delivering the presidential address at the valedictory function reiterated that the whole student community is not only convinced of these reforms to be implemented but extend its fullest cooperation to the university authorities to implement them.

The following recommendations were made at the workshop :

1. An Examination Reform Unit with financial assistance from UGC be immediately set up to take up examination reform work systematically.
2. An examination review committee consisting of representatives of students, teachers, administrators and experts (12 to 15 members) be immediately constituted : the immediate task before the committee being to prepare a detailed brochure on proposed reforms and visit various colleges and familiarise both students and teachers with these reforms.
3. Consensus arrived at by various groups in the matter of restructured pattern of question papers, choice of questions, paper setting and examining, etc. be taken up by official bodies of the university and such basic decisions taken to prepare for introduction of reforms.
4. Such areas of reforms like continuous internal assessment, question banking, grading in place of marking, semester system for courses and use of computer to support activities in pre-conduct and post-conduct stages will all have to be taken up through specially conducted workshops (5 days for a Question Banking workshop and 3 days each for each one of the other areas).
5. Such preparatory work as mentioned here will have to be undertaken during the remaining 7th plan period so that all these reforms will be implemented during the 8th plan period.

The Vice-Chancellor Prof. Ananthamurthy, in his remarks :

1. Reiterated that the practice of declaring ranks will be abolish-

(Continued on page 21)

Research in Microelectronics at BHU

The Department of Electronics Engineering of the Banaras Hindu University has carried out research at an advanced level in various areas of microwave and microelectronics. A major project which has been undertaken by the department is on microwave tube funded by the Department of Electronics with a financial input of Rs. one crore. The project has been successfully completed by Prof. S.K. Srivastava, chief investigator.

The University Grants Commission has awarded a Rs. 40 lakh grant as special assistance to the department. The department has also received a grant of Rs. 60 lakhs for the development of advance research facilities in the area of microwave and communication systems engineering and for postgraduate teaching.

Another major research project is in the area of "cathodes" and has been funded by the Department of Electronics with an input of Rs. 45 lakh. The objective of this project is import substitution in the strategic area of manufacture of microwave tubes. Scientists working on this project hope that this cathode will be completed within a couple of years and that the know-how will be passed on to the industry for the manufacture of microwave tubes.

The department is also carrying out research on dielectric antenna and the biological effect of microwave. The dielectric antenna is useful for electronic scanning while the study of biological effects has many medical applications.

Electron gun and helix is another important and strategic component of the microwave tube on which investigation is under way.

In the area of microelectronics, the Ministry of Human Resource Development has given the department about Rs. 40 lakh for research in hybrid microelectronics and integrated circuit technology. Scientists are carrying out theoretical and experimental research in the areas of solar cells, optoelectronic devices and integrated gas sensors. A gas sensor array called an electronic nose when fully developed will sense many gases and will have applications in detection of explosives, food and drug industries and environment monitoring.

Hybrid micro circuit is of use to various consumer electronic industries like television, telephone and automobile signalling.

Lasers in Chemical and Biological Sciences

Indian Institute of Technology, Delhi will organise a Workshop on Lasers in Chemical and Biological Sciences on 15-23 December, 1988. Sponsored by the Department of Science and Technology, University Grants Commission, Institute of Nuclear Medicine and Allied Sciences, Council of Scientific and Industrial Research and Indian Institute of Technology, Delhi, the Workshop is primarily meant for teachers/scientists of Universities/Institutes/Colleges who have either obtained their Ph.D. degree during the past-couple of years or are within the sight of obtaining it.

The Workshop is intended to impart instruction in theoretical concepts and experimental techniques in this emerging and inter-disciplinary field with emphasis on the application of Lasers to Chemical and Biological Sciences. As the Workshop can encompass a variety of subjects in science and technology, it is proposed to limit the discussions/experiments to areas of paramount importance like Molecular Crystal Engineering, Laser Doppler Velocimetry, Laser Induced transformations in Organic Chemistry, Fast Reaction Kinetics, Diagnostic Techniques in Biology, Ophthalmology, Photocarcinogenicity and information retrieval for defence purposes through the use of lasers and chemical reactions.

The faculty of the workshop has been derived from the laboratories actively engaged in the application of lasers in the above fields. It is proposed to make the lecture briefs available to the participants well in advance of the lecture. It is also planned to have informal after dinner talks on likely problems involved in starting work pertaining to these areas and plausible ways to circumvent them.

The selection of the participants will be made on All India basis and will depend mainly on their academic achievements, experience in related areas and age.

Please write to either of the Coordinators for further details :

S. Chopra
Department of Physics
Indian Institute of Technology
New Delhi-110016; Or

H.M. Chawla
Department of Chemistry
Indian Institute of Technology
New Delhi-110016

Jawaharlal Nehru Centre for Policy Research

The Awadhesh Pratap Singh University, Rewa has established a Jawaharlal Nehru Centre for Policy

Research. The main objectives of the Centre are: (1) To promote and conduct research in matters, pertaining to : (a) Public policy, relating to the nation, particularly to Madhya Pradesh, with a view to developing substantive policy options and through them, the improvement of policy making; and (b) the maximum augmentation and effective deployment of resources with a view to promote the development of the State; (2) to plan, promote and provide for education and training in policy planning and management areas and to undertake, organise and facilitate conferences, seminars, study courses, lectures and similar activities for the purpose; (3) to provide advisory services under its auspices or through its faculty to public/private bodies or any other institutions; and (4) to disseminate information on policy issues and knowhow on policy making and related areas.

To achieve these objectives, the Centre has instituted an M. Phil. course on Policy Research, will plan research for the Ph.D. degree or higher level, award fellowships to promote and encourage research, carry on surveys and hold lectures, seminars, conferences, etc.

Chemistry Curriculum Report

A report on chemistry curriculum for the undergraduate and postgraduate courses prepared by the Curriculum Development Centre in Chemistry, Rajasthan University has recommended increased applications of electronics and computers in chemistry teaching, allotment of considerable time to supplementary teaching and giving opportunity to the students to learn on their own through discussions including special tutorials, problem solving sessions, preparation and instructions for laboratory work, seminars, and continuous evaluation of students.

The UGC has established Curriculum Development Centres in in various regions of the country for preparation of model curriculum in each subject of higher studies.

The Department of Chemistry, University of Rajasthan, was entrusted with the responsibility of looking after the work of the Chemistry Curriculum Development Centre. The major tasks assigned to the Centre included modernisation of existing syllabi and courses, developing alternative models, preparing necessary textual and supporting alternative models, preparing training to the teachers of chemistry.

PG Course on Public Health

Punjab Agricultural University, Ludhiana, is reported to have decided to start postgraduate courses like public health in collaboration with Christian Medical College and Hospital authorities.

North Zone Ophthalmology Society has also made an offer to the University to collaborate on eye care.

UGC Seminar on Biophysics

A seminar on Biophysics was recently organised by the University Grants Commission at the Delhi University South Campus. Leading scientists and researchers from universities and research organisations from all over the country attended. The seminar focussed on a report on biophysics curriculum for postgraduate education in biophysics by the Centre for Curriculum Development for Postgraduate Education in biophysics, Indian Institute of Science, Bangalore.

The centre for curriculum development in postgraduate education in Biophysics was set up by the UGC in 1986 at the molecular biophysics unit, Indian Institute of Science, Bangalore to critically examine and suggest necessary changes and modification to upgrade the course.

Workshop on Indian Standards

A two-day Workshop on Educational Utilization of Indian Standards in Engineering was held at Patiala under the joint auspices of Bureau of Indian Standards and Thapar Institute of Engineering and Technology (TIET), Patiala. Dr. N.C. Nigam, Director, TIET, presided over the inaugural function. Eightytwo participants representing 8 organisations comprising Teachers of Engineering and Engineers attended the workshop.

In the various sessions discussions were held on : Basic Concepts of Standardization, Activities of BIS, Review of Drawing Standards and Review of Standardization in the fields of engineering, e.g. Civil, Mechanical, Electrical and Electronics. Every session was followed by a lively question-answer interaction. A film show on Standardization was also held.

University and College Level Books Exhibition

Raja Ram Mohun Roy National Resources Centre of Ministry of Human Resource Development, Govt. of India, New Delhi organised a three-day programme of Books Exhibition relating to University and College Level books covering courses of different subjects, of different Universities at the Jiwaji University, Gwalior on 5.10.88. Dr. K.K. Tiwari, Vice-Chancellor in his inaugural address appreciated the efforts made by the Centre in bringing to the notice of students and teachers, those publications which are useful by holding such exhibitions. Dr. Tiwari also spoke on the deteriorating condition of readership in the country which he said needed encouragement.

Earler, Dr. S.M. Tripathi, University Librarian, explained the importance of holding such exhibitions by the Centre at different Universities. He also explained the rank of Indian Publications in the world.

News from Agril. Varsities

Livestock Health and Rural Economy

VII Annual Convention of Indian Society for Veterinary Medicine and National Symposium on Livestock Health Cover and its Impact on Rural Economy was held at Haryana Agricultural University (HAU) from October 27th to 29th, 1988. Dr. Har Swarup Singh, Vice-Chancellor, HAU, who presided, said while it is heartening to know that the veterinary profession has kept pace with the latest developments like use of X-rays, endoscopy, radio-isolate, etc., it is also a matter of concern that these improvements have made the veterinary aid quite expensive. Therefore, the scientists should develop diagnostic techniques which are economical and convenient because majority of the Indian farmers belong to the marginal, sub-marginal and landless categories. They maintain livestock to supplement their income and cannot spend much on animal health care if such care is expensive. Dr. Singh urged the veterinarians to divert their researches to develop simple and reliable diagnostic techniques by using monoclonal antibodies. He said that they should develop vaccines by using gene-transfer technology so that livestock rearing was not so expensive. He advised the pharmaceutical industry to reduce the prices of veterinary medicines but without any deterioration in the quality of the product.

Dr. Singh said that though scientists were making laudable efforts to identify and control animal diseases, millions of animals still continued to suffer. This, he said, was probably on account of our inability to understand the mechanisms of host-pathogen relationship. For this, scientists needed to learn more about the epidemiology of the diseases and the metabolic, chemical, physical and immunological mechanisms involved in host-invader interplay.

Brig. Mehar Singh, Commandant Equine Breeding Stud, Hisar, who inaugurated the symposium, said that as the allopathic medicines were very costly, other systems of medicine like ayurvedic, homeopathic and unani should be evaluated scientifically for veterinary purposes. He emphasised the need for check on the quality of drugs and suggested that a quality controller be appointed in the Directorate of the Drug Controller. He asked the researchers to collect the primary data to know the status of different diseases throughout the country. He regretted that the disease-data-plant aspects of the veterinary profession had not been attended to. The relationship of disease with age, sex, climate, season, soil and ecological conditions, etc., must also be co-related so that effective control measures may be evolved and disease forecasting could be done.

About 200 scientists from veterinary and other institutions of the country participated in the 3-day symposium.

HAU Expertise for Africa

Haryana Agricultural University (HAU) is poised to extend consultancy services to some African and Arab countries. The Somali Democratic Republic recently invited the university to prepare a report on the development of *Somalia. It is for the first time* that the HAU will assist a foreign country in formulating a part of its development strategies.

The HAU has agreed to contribute reports on strategies for future agricultural development of Somalia, improving agricultural education, research and agriculture extension, future role of home sciences in the development of Somalia, development plans for animal and veterinary sciences and forestry. Similar interest to share the experience of the university in agriculture and allied fields has been evinced by Nigeria and Ethiopia, where the economies are camel-based and the area is neo-desert as it is in some parts of Haryana where the university has successfully met the challenges.

PAU Adds Home Science PG Wing

Dr. Sukhdev Singh, Vice-Chancellor of the Punjab Agricultural

University recently inaugurated the Postgraduate Wing of the College of Home Science at Ludhiana. He said that women education played a vital role in the development of a nation and observed that we should inculcate the global view of development and act according to the local conditions. The Vice-Chancellor hoped that with this new facility, the research work in various fields of home science could be further strengthened.

Dr. (Mrs.) M.B. Singh, Dean of the College of Home Science in her welcome address said that the need of a College of Home Science emerged as a part of an Agricultural University with an increased awareness of the role of farm women in contributing to family economy and in raising the standard of living for the rural areas. During the last 18 years, the College of Home Science of the PAU had played a significant role in improving the socio-economic conditions of the rural as well as urban families through teaching, research and extension education programmes. She said that the Postgraduate Wing had been built at a cost of Rs. 9.52 lakh provided by the Indian Council of Agricultural Research.

News from Abroad

Master's Programme in Development Administration

Carleton University, Ottawa (Canada) conducts a Master's Programme in Development Administration which offers a unique opportunity to mid-career professionals working in the fields of Development Planning and Development Administration. Launched in 1985 the Programme provides a specially designed environment in which participants can enhance significantly their capacity to provide leadership in advancing the development of their country. The Programme in Development Administration is offered by Carleton's School of Public Administration in association with the School of International Affairs. **It is a two year Master's level programme in Public Administration in which foreign applicants who are accepted are eligible to receive full funding for tuition, a living allowance, as well as a partial travel subvention.** Canadian and Landed Immigrant applicants are eligible for university financial assitance in the form of teaching and research assistantships. Now in its fourth year, 80 students from 30 developing countries have been admitted to the Programme.

The Programme welcomes generalists as well as specialists and offers a combination of courses in advanced techniques of management together with courses covering a wide variety of current development policy concerns. Students are encouraged to tailor the various offerings to best meet their specific needs. High quality candidates with a combination of high academic achievement and substantial and relevant work experience are welcomed for admission.

Further information on the Programme can be had from :

Professor N.H. Lithwick
Supervisor
Development Administration
Program
Carleton University
Ottawa, Canada : K1S 5B6

Why Examination Reforms ?

(Continued from page 17)

ed and in place the names of ten outstanding students in every subject will be adopted forthwith.

2. Sanctioned the constitution of Examination Review Committee as recommended.

3. Offered to go alongwith the Union President and with the help of a brochure to familiarise students and teachers in affiliated colleges with proposed reforms was very confident that with the cooperation of students and teachers all the reforms recommended will be taken up seriously and systematically during the 8th plan with all preparatory work duly completed in the remaining **7th plan** period.

4. Conveyed his decision to introduce semester system in the pre-degree course in the university and gave the responsibility of conduct of semester examinations to the colleges. He assured the student community that in the event of any unfairness by any affiliated college, the university shall take over the responsibility. He also suggested that the restructured pattern of question paper, namely, Part I : Objective type; Part II : Short Answer; and Part III : Long Answer shall be tried in the semester examinations. ☐

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

SOCIAL SCIENCES

Library Science

1. Goel, Preeti. *Managerial roles of chief academic librarians in India : A study using Minitzberg's model.* Panjab. Dr. U.K. Tikku, Department of Library Science, Panjab University, Chandigarh.

2. Rana Roop Deb. *Need and scope of documentation and information sciences for the development of Nepal.* BHU. Dr. S N. Singh, Department of Library and Information Science, Banaras Hindu University, Varanasi.

3. Tiwari, Pravin Chandra. *Serials management in a university library : An operational research study with reference to goals, plan and budget.* BHU. Dr. Y.P. Dubey, Department of Library and Information Science, Banaras Hindu University, Varanasi.

Psychology

1. Chakravarty, Uttara. *Learning disabilities in pre-adolescents.* BHU. Dr. C.B. Dwivedi, Department of Psychology, Banaras Hindu University, Varanasi.

2. Deo, Sohani. *Types of schooling and the development of memory and reasoning skills.* BHU. Dr. R.C. Mishra, Department of Psychology, Banaras Hindu University, Varanasi.

3. Dogra, Rajeev. *A study of depressive disorders in relation to life stress, personality and social support.* HP. Dr. Sagar Sharma, Department of Psychology, Himachal Pradesh University, Shimla.

4. Kundu, Kamala. *Diagnostic evaluation.* BHU. Prof. R.R. Tripathi, Department of Psychology, Banaras Hindu University, Varanasi.

5. Misra, Kaushal. *Ethnic group relations : Psychological dimensions.* BHU. Dr. R.C. Mishra, Department of Psychology, Banaras Hindu University, Varanasi.

6. Ram Narayan. *Psychophysiological correlates of performance.* BHU. Prof. B.S. Gupta, Department of Psychology, Banaras Hindu University, Varanasi.

7. Reutela, Mamta. *Personality and cognitive performance.* BHU. Prof. B.S. Gupta, Department of Psychology, Banaras Hindu University, Varanasi.

8. Sehgal, Renu. *Problem solving as a function of neuroticism and fear of success in university and working women.* HP. Dr. D.K. Malhotra, Department of Psychology, Himachal Pradesh University, Shimla.

9. Singh, Alpana. *Coping strategies and organization effectiveness.* BHU. Dr. A.P. Singh, Department of Psychology, Banaras Hindu University, Varanasi.

10. Sonkar, Anil Kumar. *A study of individual and social moderator of P.E. fit in organisational context.* BHU. Dr. A.K. Srivastava, Department of Psychology, Banaras Hindu University, Varanasi.

11. Thakur, Meenakshi. *Sex role orientation locus of control, risk taking tendency and values as related to achievement motivation in tribal and non tribal students.* HP. Dr. D.K. Malhotra, Department of Psychology, Himachal Pradesh University, Shimla.

Sociology

1. Sehgal, Arvind. *Assimilation of an ethnic group : A case study of Namdharis of Mandi Town in Himachal Pradesh.* Panjab. Dr. A. Mahajan, Department of Sociology, Panjab University, Chandigarh.

Social Work

1. Mishra, Chandra Pati. *Study on the work performance of primary health centres.* BHU. Prof. I.C. Tiwari, Department of Preventive and Social Medicine, Banaras Hindu University, Varanasi.

2. Rai, Rita. *Extension education through a system of a front line workers in Block Community Health care.* BHU. Dr. J. Tandon, Department of Preventive and Social Medicine, Banaras Hindu University, Varanasi.

Political Science

1. Mishra, Baby. *Prachin Bharatiya rajaniti vigyan.* BHU. Prof. H.N. Tripathi, Department of Political Science, Banaras Hindu University, Varanasi.

2. Ogoloma Fineface L *Nigeria and the organization of African unity, 1970-1983.* Panjab. Dr. K.K. Pathak, Department of Political Science, Panjab University, Chandigarh.

3. Pandey, Kashi Nath. *Bharat Roos sambandh, 1971-1979; Pakistan ke vishesh sandarbh mein.* BHU. Dr. A.S. Mishra, Department of Political Science, Banaras Hindu University, Varanasi.

Economics

1. Garg, Jyoti Krishna. *Modelling of agricultural sector in India.* BHU. Prof. D.K. Srivastava, Department of Economics, Banaras Hindu University, Varanasi.

2. Jar-Allah, Abbas Naseem. *International monetary air and trade system and the debts of the developing countries.* BHU. Dr. D.K. Mishra, Department of Economics, Banaras Hindu University, Varanasi.

3. Jaswinder Singh. *Impact of irrigation on some aspects of agricultural development : A case study of Nagarjunasagar command area, Andhra Pradesh.* Panjab. Dr. Harjinder Singh Shergil, Reader, Department of Economics, Panjab University, Chandigarh.

4. Kasinathan, R. *Indian economic problems.* BHU. Dr. A.K. Jain, Department of Economics, Banaras Hindu University, Varanasi.

5. Pandey, Posh Raj. *Economic and financial integration: A strategy for economic development under SAARC.* Panjab. Prof. M R. Aggarwal, Department of Economics, Panjab University, Chandigarh.

6. Singh, Nand Kumar. *Field econometrics.* BHU. Dr. G.D. Mishra, Department of Economics, Banaras Hindu University, Varanasi.

7. Singh, Shubhra. *Industrial relations in India : A case study.* BHU. Prof. (Miss) U.K. Mehra, Department of Economics, Banaras Hindu University, Varanasi.

8. Sunita Kumari. *Diversification vs. specialisation : Economic rationale of changing the cropping pattern in Panjab.* Panjab. Prof. R.N. Soni, Department of Economics, Panjab University, Chandigarh.

Law

1. Ali Mehdi. *Legal control of water pollution in India : Retrospect and prospects.* BHU. Prof. C.M. Jariwala, Department of Law, Banaras Hindu University, Varanasi.

2. Birendra Singh. *Administrative tribunals : A critical study with special reference to service tribunals.* BHU. Sri V.S. Chauhan, Department of Law, Banaras Hindu University, Varanasi.

3. Buddhi Ram. *The problems and prospects of the functioning of juvenile justice system in U.P. : A socio legal study of selected towns.* BHU. Sri P.N. Banerjee, Department of Law, Banaras Hindu University, Varanasi.

4. Gaur, Pankaj. *General direction issued under article 21 by the Supreme Court.* BHU. Prof. R.K. Mishra, Department of Law, Banaras Hindu University, Varanasi.

5. Singh, Anil Kumar. *The functioning of the prison system in U.P. : A socio-legal study of selected prisons.* BHU. Sri P.N. Banerjee, Department of Law, Banaras Hindu University, Varanasi.

6. Singh, Harsh Narayan. *Shramik ashanti : Ek samajik evam vividh adhyayan.* BHU. Sri Yogendra Singh, Department of Law, Banaras Hindu University, Varanasi.

7. Tiwari, Ganesh Ji. *Exclusive economic zone : Problems and recent developments.* BHU. Dr. R.A. Malviya, Department of Law, Banaras Hindu University, Varanasi.

Education

1. Aparaj, S.M. *A study of developing auditory abilities through language exercises in teaching English as a second language in secondary schools.* Shivaji. Dr. M.S. Sonar, Department of Education, Shivaji University, Kolhapur.

2. Chander Prabha. *The relationship of proportionality, propositional logic and combinatorial analysis to high school science achievement.* Panjab. Prof. (Miss) S. Gakhar, Department of Education, Panjab University, Chandigarh.

3. Chauhan, Parma Nand. *A study of selected anthropometric motor fitness and psychomotor variables as corelates of performance in volley-ball.* Panjab. Shri Gurbakhsh Singh, Reader, Department of Physical Education, Panjab University, Chandigarh.

4. Chindaratana, Samran. *Teaching behaviour and role expectation of physical education instructors as perceived by students' and administrators.* Panjab. Prof. (Miss) J. Bhullar, Department of Physical Education, Panjab University, Chandigarh.

5. Chopra, Anju. *A cross sectional study of ego-identity of adolescents in relation to self-concept, adjustment and socio economic status.* Panjab. Dr. (Mrs.) P. Chaudhry, Department of Education, Panjab University, Chandigarh.

6. Joseph, Orogbemi Oriola. *Effectiveness of counselling strategies for reducing academic under-achievement of IX class students of Northern Nigeria.* Panjab. Dr. (Mrs.) Tehal Kohli, Reader, Department of Education, Panjab University, Chandigarh.

7. Mann, Sukhravinder Kaur. *A study of burnout in relation to achievement motivation and introversion extroversion among college teachers of Panjab.* Panjab. Dr. (Mrs) Asha Gupta, Department of Education, Panjab University, Chandigarh.

8. Mohajer, Sohayl. *Baha'i philosophy of education and its implications for formal education.* Panjab. Dr. (Mrs) Tehal Kohli, Reader, Department of Education, Panjab University, Chandigarh.

9. Murthy, Bharati. *Psycho-social problems of mental retardates and the role of self help groups.* Panjab. Dr. (Mrs) Tehal Kohli, Reader, Department of Education, Panjab University, Chandigarh.

10. Safri Lal. *Construction of specific physical fitness test for wrestlers* Panjab. Dr. Ajmer Singh, Director Sports, Panjab University, Chandigarh.

11. Sekhon, Jatinder Jeet. *A study of motor fitness profiles of school girls belonging to urban and rural areas of union territory of Chandigarh.* Panjab. Dr. Ajmer Singh, Director Sports, Panjab University, Chandigarh.

12. Sharma, Rajni. *A study of adjustment, anxiety and burn out of teachers of high and higher secondary schools in Union Territory, Chandigarh.* Panjab. Dr. (Mrs) Asha Gupta, Department of Education, Panjab University, Chandigarh.

13. Sukhpal Kaur. *A cross sectional study of motor abilities of girls in the age group of 7 to 11 years.* Panjab. Shri Gurbakhsh Singh, Reader, Department of Physical Education, Panjab University, Chandigarh.

14. Tejinder Singh. *Public opinion on the national policy on education 1986 at the point of its take off in Panjab.* Panjab. Prof. (Mrs) B.K. Saini, Department of Education, Panjab University, Chandigarh.

Commerce

1. Agrawal, Prabha. *Foreign subsidiaries in India : An appraisal of their working.* BHU. Prof R.A. Singh, Department of Commerce, Banaras Hindu University, Varanasi.

2. Gajendra Dass. *Banking system in Nepal.* BHU. Dr. O.P. Rai, Department of Commerce, Banaras Hindu University, Varanasi.

3. Gangopadhyaya, A.K. *Control system of tiny and small scale industries.* BHU. Prof. R.A. Singh, Department of Commerce, Banaras Hindu University, Varanasi.

4. Gupta, Rajeev. *Pattern of corporate share ownership in India.* BHU. Prof. R.A. Singh, Department of Commerce, Banaras Hindu University, Varanasi.

5. Gyan Prakash. *Tax dimensions of cooperative sector in India.* BHU. Prof. S.N. Mehrotra, Deparment of Commerce, Banaras Hindu University, Varanasi.

6. Karnik, Jagadish Khanderao. *Critical study of stock exchanges in India : A major constituent of capital market.* Shivaji. Dr. R.M. Tunagare, Chh. Shahu Central Institute of Business Education and Research, Kolhapur.

7. Muhammad Mohiuddin. *Management of small business firms in Bangladesh.* BHU. Dr. B. Jha, Department of Commerce, Banaras Hindu University, Varanasi.

8. Yadav, Pramod Kumar. *Management of industrial estates in Uttar Pradesh.* BHU. Dr. S.P. Agrawal, Department of Commerce, Banaras Hindu University, Varanasi.

Home Science

1. Beri, Deepa. *Immunopathogenetic role of food antigens in rhumetoid arthritis.* Delhi. Dr. Usha Bhargava, Lady Irwin College, Delhi.

HUMANITIES

Philosophy

1. Barua, Jayanti. *Place of women in Buddhism.* BHU. Dr. K.N. Mishra, Department of Philosophy, Banaras Hindu University, Varanasi.

2. Jain, Hem Lata. *Jain praman mimansa ka samalochanatmak adhyayan.* HS Gour. Dr. H.N. Mishra, Reader, Department of Philosophy, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

3. Shukla, Rajneesh Kumar. *Kant ka saundarya shastra : Ek sameekshatmak adhyayan.* BHU. Dr. (Mrs) M. Agrawal, Department of Philosophy, Banaras Hindu University, Varanasi.

4. Yadav, Kedar Nath. *Vedant darshan ke mayavad ka Kabir ke mayavad ke sath ek tulnatmak adhyayan.* BHU Dr. (Mrs) M. Agrawal, Department of Philosophy, Banaras Hindu University, Varanasi.

Fine Arts

1. Giri, Pramila. *The iconography of Bhairava.* BHU. Dr. T.K. Biswas, Department of History of Art, Banaras Hindu University, Varanasi.

2. Khanna, Sucharita. *The divine dancers in early Indian, art.* BHU. Dr. T.K. Biswas, Department of History of Art, Banaras Hindu University, Varanasi.

3. Pathak, Jay Prakash. *Sangrahalaya aur samuday.* BHU. Dr. S.K. Srivastava, Department of Museology, Bharat Kala Bhawan, Banaras Hindu University, Varanasi.

4. Sharma, Santosh Kumar. *Asam kee mrinmurti kala.* BHU. Prof. R. Das Gupta, Department of History of Art, Banaras Hindu University, Varanasi.

5. Vimal Kumar. *Amaravati kee kala.* BHU. Prof. B. Srivastava, Department of History of Art, Banaras Hindu University, Varanasi.

Language & Literature

English

1. Chaturvedi, Rashmi. *Henry James : A critical study of his plays.* BHU. Dr. S.R. Jalote, Department of English, Banaras Hindu University, Varanasi.

2. Sampuran Chand. *Albert Camus : An oriental viewpoint.* Panjab. Prof. N. Mukerji, Department of English, Panjab University, Chandigarh and Prof. Bhuvan Chandel, Department of Philosophy, Panjab University, Chandigarh.

3. Usha Rani. *An analysis of the language of psychological conflict in the selected novels of Anita Desai.* Panjab. Dr. (Mrs) Pushpinder Syal, Department of English, Panjab University, Chandigarh.

Sanskrit

1. Jha, Sindhu. *Sternbach dwara sampadit Chanakya niti shakha sampradaya ke adhar per.* Panjab. Dr. Damodar Jha,

Reader, Visheshvaranand Vishwa Bandhu Institute of Sanskrit and Indological Studies, Hoshiarpur.

2. Khatri, Chitra. *Sanskrit sahitya evam ayurveda ke paripekshya mein Narad puran ka ek sameekshatmaka adhyayana.* BHU. Dr. L.P. Gupta, Department of Basic Principles, Banaras Hindu University, Varanasi and Dr. R.P. Dwivedi, Reader, Department of Sanskrit, Banaras Hindu University, Varanasi.

3. Sharma, Bal Raj. *Manusmriti mein viveehit vyavhar padon ka anya smritiyon se tulnatmak adhyayan.* Panjab. Prof. B.L. Bhartiya, Dayanand Chair for Vedic Studies, Panjab University, Chandigarh.

4. Sharma, Vinod Kumar. *A critical study of Sarasvata vyakarana of anubhuti sarupacharya.* Panjab. Dr. D.R. Sharma, Department of Sanskrit, Panjab University, Chandigarh.

5. Suman Lata Devi. *Sanskrit sahitya evam ayurveda ke paripekshya mein varah puran ka ek sameekshatmak adhyayan.* BHU. Dr. L.P. Gupta, Reader, Department of Basic Principles, Banaras Hindu University, Varanasi and Dr. R.P. Dwivedi, Department of Sanskrit, Banaras Hindu University, Varanasi.

6. Thapak, Kamlesh Kumar. *Mahabharat ke adi parva ka shailli vaigyanik adhyayan.* HS Gour. Prof. Radhey Ballabh Tripathi, Head, Department of Sanskrit, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

Panjabi

1. Bhullar, Paramdeep Singh. *Adhunik Panjabi kavita vich supan sansar pramukh kavian de sandarbh vich.* Panjab. Dr. Kessar Singh Kessar, School of Panjabi Studies, Panjab University, Chandigarh.

2. Gill, Amarpreet Kaur. *Panjabi novel vich pesh badalde samajik rishte te naitik mull.* Panjab. Dr. Om Parkash Vasishta, Reader, Department of Panjabi Lexicography, School of Punjabi Studies, Panjab University, Chadigarh.

3. Grewal, Baljit Kaur. *Panjabi istri novelkaran de nivelan vich istri di azadi di samasya.* Panjab. Dr. Kessar Singh Kessar, School of Punjabi Studies, Panjab University, Chandigarh.

4. Gulshan Raj. *Guru Ravidass di bani vich manavatavad.* Panjab. Prof. D.P. Singhal, Department of Guru Ravi Dass Chair, Panjab University, Chandigarh.

5. Gurdial Singh. *1960 ton 1985 da Panjabi novel te usdi shilip vidhi.* Panjab. Prof. Raghbir Singh, School of Panjabi Studies, Panjab University, Chandigarh.

6. Jagbir Singh. *Sant Ravidass : Pramanik jiwani evam vana.* Panjab. Prof. D.P. Singhal, Department of Guru Ravi Dass Chair, Panjab University, Chandigarh.

7. Kamaljit Singh. *Krantikari Panjabi geet : Prakaraj te roop.* Panjab. Dr. Kessar Singh Kessar, School of Punjabi Studies, Panjab University, Chandigarh.

8. Labh Singh. *Chhe darshan de prasang vich adi granth vich sankalit bhagat bani da darshnik adhyayan.* Panjab. Dr. Randhir Singh Chand, Govt. College, Hoshiarpur.

9. Sukhwinder Kaur. *Guru Ravi Dass ji di kav kala.* Panjab. Prof. D.P. Singhal, Department of Guru Ravi Dass Chair, Panjab University, Chandigarh.

10. Verma, Gitali. *Guru Ravidass aur Kabir ka tulnatmak adhyayan : Samajik drishti se.* Panjab. Prof. D.P. Singhal, Department of Guru Ravi Dass Chair, Panjab University, Chandigarh,

Hindi

1. Agrawal, Sushila. *Swatantryottar Hindi natak mei alagav bodh.* Panjab. Dr. Yash Gulati, Department of Hindi Panjab University, Chandigarh.

2. Asha Kumari. *Hindi ke rasik kavyon mein sanskritik chetna.* BHU. Dr. Rajamani Sharma, Department of Hindi, Banaras Hindu University, Varanasi.

3. Bhagawan Ram. *Pragativadi upanyason mein nari ka manovaigyanik chitran.* BHU. Dr. Vimala Singh, Department of Hindi, Banaras Hindu University, Varanasi.

4. Bose, Arati. *Bangla prabhav aur Nirala kee kavitayen.* BHU. Dr. Vidyottama Mishra, Department of Hindi, Banaras Hindu University, Varanasi.

5. Chatterjee, Padma. *Chhayavadi andolan aur Makhanlal Chaturvedi.* BHU. Dr. Jamila Zafari, Department of Hindi, Banaras Hindu University, Varanasi.

6. Chaturvedi, Abhilasha. *Chhayavadottar kavya andolan : Mulyagat antarvirodh.* BHU. Dr. Ramkali Sarraf, Department of Hindi, Banaras Hindu University, Varanasi.

7. Datta, Adarsh. *Govind Vallabh Pant ke katha sahitya mein vyakti aur samaj.* Panjab. Dr. Yash Gulati, Department of Hindi, Panjab University, Chandigarh.

8. Geeta Devi. *Bhaktikavya mein samantavad virodhi avadharanaen.* BHU. Dr. Ramkali Sarraf, Department of Hindi, Banaras Hindu University, Varanasi.

9. Kailash Nath. *Asht chhap ke kaviyon kee sanskritik chetana.* BHU. Dr. Shambhu Nath Pandey, Department of Hindi, Banaras Hindu University, Varanasi.

10. Krishna Murari. *Ramacharit Manas ke pauranik sandarbh.* BHU. Dr. Kailash Narayan Tiwari, Department of Hindi, Banaras Hindu University, Varanasi.

11. Kundan Singh. *Hindi ghazal : Parampara aur prayog.* Panjab. Dr. V.R. Mehndiratta, Reader, Department of Hindi, Panjab University, Chandigarh.

12. Mamta Kumari. *Madhyakaleen Bharatiya samaj aur Ramacharit Manas.* BHU. Dr. Baliraj Pandey, Department of Hindi, Banaras Hindu University, Varanasi.

13. Meenakshi. *Kamayani kee vastu evam sangrachana ka vishleshanatmak adhyayan.* BHU. Dr. Mahendra Nath Rai, Department of Hindi, Banaras Hindu University, Varanasi.

14. Mishra, Narottam. *Kabir kavya yugeed samaj vyavastha ka sandarbh.* BHU. Dr. Kailash Narayan Tiwari, Department of Hindi, Banaras Hindu University, Varanasi.

15. Narayan Prasad. *Sur kee lok chetana.* BHU. Dr. Kumud Prabha Srivastava, Department of Hindi, Banaras Hindu University, Varanasi.

16. Padma Kumari. *Samajik sanskritik chetana ke paripekshya mein Dinkar ke kavya ka adhyayan.* BHU. Dr. Asha Pant Department of Hindi, Banaras Hindu University, Varanasi.

17. Pandey, Amritesh. *Hindi kavita mein vyang, 1960-80.* BHU. Dr. Shivakaran Singh, Department of Hindi, Banaras Hindu University, Varanasi.

18. Pandey, Madhuri. *Nirala ke gadya sahitya mein samasamayik bodh.* BHU. Dr. Shivakaran Singh, Department of Hindi, Banaras Hindu University, Varanasi.

19. Pandeya, Nirmala. *Kabir evam Tulasi ke vinay padon ka tulanatmak adhyayan.* BHU. Dr. Mohan Lal Tiwari, Department of Hindi, Banaras Hindu University, Varanasi.

20. Phore, Rohit Singh. *Hindi sakshatkar sahitya mein vyaktitva ka prakashan.* Panjab. Dr. Vishva Bandhu, Department of Hindi, D.A.V. College, Abohar.

21. Ramakant. *Swattantrottar Hindi kavita ka kavyandolan evam bhashik sanrachana.* BHU. Dr. R.M. Sharma, Department of Hindi, Banaras Hindu University, Varanasi.

22. Sharma, Poonam. *Hazari Prasad Dwivedi ke upanyason ka mithakeey adhar.* BHU. Dr. Shambhu Nath Pandey, Department of Hindi, Banaras Hindu University, Varanasi.

23. Shukla, Minakshi. *Madhyakaleen sanskritik aur Hindi bhakti.* BHU. Dr. Kumud Prabha Srivastava, Department of Hindi, Banaras Hindu University, Varanasi.

24. Singh, Achyuta Nand. *Bhojpuri ke Banaras, Mirzapur aur Rohtas Jile ke boli rupon ka bhasha vaigyanik adhyayan.* BHU. Dr. Vishwanath Mishra, Department of Hindi, Banaras Hindu University, Varanasi.

25. Singh, Daya Shankar. *Hindi natya parampara mein Varanasi ka yogdan.* BHU. Dr. Narvadeshwar Rai, Department of Hindi, Banaras Hindu University, Varanasi.

26. Singh, Kiran. *Hindi upanyas sahitya mein mahila upanyasakaron ka yogdan, 1960-85.* BHU. Dr. Chauthi Ram Yadav, Department of Hindi, Banaras Hindu University, Varanasi.

27. Singh, Madhavi. *Hindi kee mahila kathakaron kee kahaniyon mein nari jeevan, 1960-85 tak.* BHU. Dr. Sukdev Singh, Department of Hindi, Banaras Hindu University, Varanasi.

28. Singh, Pushpa. *Sur kavya : Samanti sanskriti aur janm sanskriti ke antarvirodh.* BHU. Dr. Ram Narayan Shukla, Department of Hindi, Banaras Hindu University Varanasi.

29. Singh, Rukmini. *Bharatendu sahitya mein chitrit Varanasi ka sanskritik swaroop.* BHU. Dr. Vishwa Nath Mishra, Department of Hindi, Banaras Hindu University, Varanasi.

30. Singh, Suresh Chandra. *Sataven dashak ke Hindi upanyason mein samsamayik chetana.* BHU. Dr. Kumud Prabha Srivastava, Department of Hindi, Banaras Hindu University, Varanasi.

31. Srivastava, Chhaya. *Purvavarti kavya aur sur sahitya.* BHU. Dr. Pushpa Agrawal, Department of Hindi, Banaras Hindu University, Varanasi

32. Srivastava, Kiran. *Gopal Ram Gahamari ke upanyas : Parampara aur drishti.* BHU. Dr. Indumati Singh, Department of Hindi, Banaras Hindu University, Varanasi.

33. Srivastava, Narendra Bahadur. *Samakalin kavita mein vidroh chetana, 1960-85.* BHU. Dr. Avadhesh Pradhan, Department of Hindi, Banaras Hindu University, Varanasi.

34. Srivastava, Sanjai Kumar. *Nai kahani mein adhunikatavadi pravittiyan.* BHU. Dr. Kashi Nath Singh, Department of Hindi, Banaras Hindu University, Varanasi.

35. Tiwari, Arpana. *Hindi kahaniyon mein natakiyatatva aur manchan kee sambhavanayen.* BHU. Dr. Ramakali Sarraf, Department of Hindi, Banaras Hindu University, Varanasi.

36. Tiwari, Durga Prasad. *Athaven dashak ke upanyason mein samajik chetana.* BHU. Dr. Indumati Singh, Department of Hindi, Banaras Hindu University, Varanasi.

37. Tripathi, Mrityunjay Kumar. *Pragativad aur nai kavita : Samajik aur sahityik antarvirodh.* BHU. Dr. Ram Narayan Shukla, Department of Hindi, Banaras Hindu University, Varanasi.

38. Trivedi, Archana. *P.B. Shelley aur Jayashankar Prasad ke kavya kee bhav bhumi.* BHU. Dr. Mohan Lal Tiwari, Department of Hindi, Banaras Hindu University, Varanasi.

39. Upadhyay, Arima. *Hindi kavita ka loktatvik adhyayan, 1950-80 tak.* BHU. Dr. Sri Nivas Pandey, Department of Hindi, Banaras Hindu University, Varanasi.

40. Upadhyaya, Rajendra Nath. *Reetikalin Sant sahitya mein rahasyavad.* BHU. Dr. K. Pankaj, Department of Hindi, Banaras Hindu University, Varanasi.

41. Yadav, Renu Bala. *Pauranik akhyan aur Sur ka kavya.* BHU. Dr. Kumar Pankaj, Department of Hindi, Banaras Hindu University, Varanasi.

Urdu

1. Anjum Ara. *Urdu ghazal mein secularism kee rivayat.* BHU. Prof. H.C. Nayyar, Department of Urdu, Banaras Hindu University, Varanasi.

2. Kafil Ahmed. *Mashahir-e-adali-e-urdu : A biographical dictionary, 1800-1850.* BHU. Prof. H C. Nayyar, Department of Urdu, Banaras Hindu University, Varanasi.

3. Khan, Diwan Rizwan Ahmed. *Khwaja Ahmad Abbas : Hayat aur karname.* BHU. Prof. H.C. Nayyer, Department of Urdu, Banaras Hindu University, Varanasi.

4. Mohammad Iqbal. *Mutala-e-Deewan-e-Manzur Hasan Namy.* Panjab. Dr. Haroon Ayub, Department of Urdu, Panjab University, Chandigarh.

5. Mohammad Isa. *Urdu mein aapbitian.* BHU. Dr. S.H. A. Naqvi, Department of Urdu, Banaras Hindu University, Varanasi.

6. Nastran Ahsan. *Faiz kee shairi ka asloobiyati mutala.* Panjab. Dr. Haroon Ayub, Department of Urdu, Panjab University, Chandigarh.

Bengali

1. Das, Nanda. *Saptadash shatabdir Bangla sahityer gatiprakriti.* BHU. Dr. S.N. Das, Department of Bengali, Banaras Hindu University, Varanasi.

Marathi

1. Adya, Alka Vishnu. *A critical study of Marathi narrative poems on the subject Humbling of the pride composed between 1300 A.D. and 1800 A.D.* BHU. Prof. W.K. Lele, Department of Marathi, Banaras Hindu University, Varanasi.

2. Shaneediwan, R.K. *Mardhekaranchya kavya shailicha abhyas.* Shivaji. Dr. G.M. Pawar, Department of Marathi, Shivaji University, Kolhapur.

Arabic

1. Qadiri, Riaz Ahmad. *Allama Zamakhsharis : Life and work.* BHU. Dr. Syed Imran Raza Rizvi, Department of Arabic, Banaras Hindu University, Varanasi.

2. Talib Ali Hasan. *Al Fortousi : His life and works.* BHU. Dr. Imran Raza Rizvi, Department of Arabic, Banaras Hindu University, Varanasi.

Kannada

1. Anupama Kumari, B.P. *Rajendra name of Kodagu : A linguistic and cultural study in Kannada.* BHU. Dr. V. Shivanand, Department of Kannada, Banaras Hindu University, Varanasi.

2. **Badiger, R.I.** *Life and works of Shri Channaveer kanavi.* Shivaji. Dr. V.A. Diwanji, D.B.F. Dayanand College of Arts and Science, Solapur.

3. Kokila, P. *Vachawa and Tevaram literature : A comparative and critical study.* BHU. Dr. V.V. Shivanand, Department of Kannada, Banaras Hindu University, Varanasi.

Telugu

1. Jagan Mohan, V. *Evolution of Telugu literature.* BHU. Dr. G. Trivikramaiah, Department of Telugu, Banaras Hindu University, Varanasi.

Geography

1. Bhalerao, D.J. *A study of landforms and landuse characteristics of the Hiranyakeshi Basin, Maharashtra.* Shivaji. Dr. S.D. Shinde, Prof. and Head, Department of Geography, Shivaji University, Kolhapur.

2. Bhanje, B.M. *Sugar cooperatives and rural transformation : A geographical perspective of the command area of Warana Sugar Factory.* Shivaji. Dr. M.G. Jadhav, Department of Geography, Shivaji University, Kolhapur.

3. Karanjot Kaur. *Ecological implications of the green revolution : A case study of Panjab.* Panjab. Prof. Gopal Krishan, Department of Geography, Panjab University, Chandigarh.

4. Patil, A.D. *Geographical appraisal of wastelands in the Warana Basin.* Shivaji. Dr. M.G. Jadhav, Department of Geography, Shivaji University, Kolhapur.

5. Shailja. *Spatial pattern of population development in the urban centres of Western U.P.* BHU. Dr. (Mrs.) T.D. Singh. Department of Geography, Banaras Hindu University, Varanasi.

6. Singh, Narendra Kumar. *Dynamics of rural development in Rohtas District, Bihar.* BHU. Dr. R.B. Singh, Department of Geography, Banaras Hindu University, Varanasi.

7. Singh, Shashi Bala. *Urban landuse.* BHU. Prof. K.N. Singh, Department of Geography, Banaras Hindu University, Varanasi.

History

1. Gupta, Narbada Prasad. *Political and cultural history of Nala-dynasty.* HS Gour. Dr. V.D. Jha, Reader, Department of Ancient Indian History, Culture and Archaeology, Dr. Hari Singh Gour Vishwavidyalaya, Sagar.

2. Meena Kumari. *Tikamgarh Janpad kee prachin kala ka anusheelan.* BHU. Prof. M. Jauhari, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

3. Singh, Indu Prakash. *Pal kaleen Bharat mein Bauddha dharma ka ek atihasik adhyayan.* BHU. Dr. (Mrs) S.D. Singhal, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

4. Singh, Pramod Kumar. *Bauddha kaleen shiksha Vyavastha.* BHU. Dr. A.L. Yadava, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

5. Thakur, Neena. *Budda purva purvi Uttar Pradesh evam Bihar mein bhautik sanskriti ka vikas.* BHU. Dr. P.C. Pant, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

6. Tripathi, Devi Prakash. *Prachin Bharatiya dharm ke puratatvik adhar : Arambh se pratham shatabdi isvi paryant.* BHU. Dr. Maheshwari Prasad, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Sociology

1. Gokilvani, S. *Reference groups of doctors in an organizational set-up : A comparative study of two hospitals in Madurai City.* Madurai.

2. Hiragannavar, Rudrappa Mahadevappa. *Administration of juvenile justice system in Karnataka.* Karnatak. Dr. B S. Gireppagoudar, Reader, Department of Studies in Criminology, Karnatak University, Dharwad.

3. Kushwaha, R.K.S. *Socio-medical study of methylisocynate gas leak affected people of Bhopal City.* Bhopal. Dr. R.N. Solanki, Prof. and Head, Department of Sociology, Hamidia College, Bhopal and Dr. S.N. Sharma, Prof. and Head, Department of Sociology, Government Maharani Laxmi Bai Girls College, Bhopal.

4. Lanunungsang Ao, A. *Landownership, rural economy and integrated rural development programmes : A case study of Mezdiphema Block in Kohima District of Nagaland.* NEHU. Dr. A.C. Sinha, Department of Sociology, North Eastern Hill University, Shillong.

Political Science

1. Chakraborti, Rama. *Political socialization of students in metropolitan Calcutta.* Calcutta.

2. Mohammad Moazzam Ali. *Constitutional development in the Soviet Union, 1936-77 : A socio political study.* JNU. Prof. R.R. Sharma, Centre for Soviet and East European Studies, Jawaharlal Nehru University, New Delhi.

3. Patel, Neela. *Nitivakyamritam mein rajya.* BHU. Dr. (Mrs) K.K. Gopal.

4. Saiful Islam A. *Politics of agrarian reform : The case of Kerala.* Kerala. Dr. V. Gangadharan Pillai, Reader (Retd), Kamala Nivas, Madathil Lane, Perunthanni, Vallakkadavu, P.O. Trivandrum.

5. Shukla, Kiran. *The role of backward castes in Bihar politics, 1967 to 1985.* JNU. Prof. S.N. Jha, Centre for Political Studies, Jawaharlal Nehru University, New Delhi.

Economics

1. Joga Singh. *Production planning for electric power in Eastern India.* Delhi.

2. Mayani, Vallabhbhai Vasharmbhai. *Groundnut growers' knowledge, adoption and constraints in dry farming technology of groundnut.* Gujarat Agrl. Dr. K.G. Halyal, Prof. and Head, Department of Extension Education, College of Agriculture, Gujarat Agricultural University, Junagarh.

3. Prasher, Raghbir Singh. *Demand for milk in Himachal Pradesh.* HP Krishi. Dr. Prakash Mehta, Deputy Director (P), Himachal Pradesh Krishi Vishwavidyalaya, Palampur.

4. Sale, Damodhar Laxman. *Acrage response of principal crops in Maharashtra State.* MP Agrl. Dr. M.P. Dhongade, Department of Agricultural Economics, College of Agriculture, Pune.

5. Seshadri, Erappa Bodugula. *Industrialisation in Karnataka : A regional and structural analysis.* Karnatak. Dr. M.C. Kodli, Reader, Department of Studies in Economics, Karnatak University, Dharwad.

6. Srivastava, Shashi Bala. *Uttar Pradesh rajkiya udyogon mein shram sambandh : Rajya Vidyut Parishad ka adhyayan.* BHU. Dr. S.C. Srivastava, Reader, Department of Economics, Banaras Hindu University, Varanasi.

Education

1. Baveja, Bharati. *An experimental study of information processing models of teaching in schools of India.* Delhi.

2. Chandramani, Indra. *A study of occupation and career perceptions of the various nursing personnel working in the training institutions of nursing in the City of Greater Bombay.* SNDT. Dr. (Smt) Rajani Ashar.

3. Malik, Yasmin. *A study of certain correlates of drop-outs in the field of higher education in Delhi University.* JNU. Dr. (Mrs) Vimala Veeraraghavan, Zakir Husain Centre for Educational Studies, Jawaharlal Nehru University, New Delhi.

4. Pandey, Nagendra Nath. *Operational reasoning and concept attainment in Physics.* BHU. Dr. S.B. Bhattacharya

5. Radhamony, P. *Lexical morphemic and syntactic analysis of the language of Chemistry in the Kerala textbooks, (Malayalam version) and its implications for science education.* Kerala. Dr. N. Vedamani Manuel, Prof. (Retd), 17 Kalakshetra Road, Thiruvanniyoor, Madras.

6. Ramachandra Tammaji, Jantli. *Relationship between teacher behaviour, pupil personality and pupil growth outcome.* Karnatak. Dr. (Mrs) Shashikala Deshpande, Reader, Department of Education, Karnatak University, Dharwad.

7. Samba Murthy, D. *A study of the factors responsible for the effective implementation of the National Adult Education Programme in Andhra Pradesh.* Osmania.

8. Sinha, Sachidanand. *Regional disparities in the levels of development of school education : A comparative study of Bihar and Haryana.* JNU. Prof. Aijazuddin Ahmad, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi.

9. Vachhrajani, B.V. *A study of impact of self instructional material on sex education on adjustment neutroticism and attitude sex of high school students.* Saurashtra. Dr. D. A. Uchat.

10. Venkata Gangadhra Sastry, Vuppuluri. *Language and national integration : A study of teacher attitudes.* Andhra.

Commerce

1. Annamalai, S. *Corporate dividend policy of cotton textile industry in Tamil Nadu.* Madurai.

2. Dhotra, Jagdish Raj. *Workers morale in public and private undertakings in Jammu and Kashmir.* Jammu. Dr. M. M. Misra, Reader and Head, Department of Management Studies, University of Jammu, Jammu.

3. Jain, Suresh Chand. *Madhya Pradesh ke vanon kee audyogik evam rojgar sambhavnayen.* HS Gour. Dr. A.K. Gangele, Department of Commerce, Dr. Hari Singh Gour Vishwavidyalaya, Sagar.

4. Mani, P.L. *Financial management in roadways corporation in Tamil Nadu with special reference to Pandyan Roadways Corporation.* Madurai.

5. Mukhopadhyay, Badal Kumar. *The influence of direct tax laws on foreign investment in India.* Calcutta.

6. Pandey, Amitabh. *Madhya Pradesh kee van sampadha : Vidohan evam sambhavanayen.* HS Gour. Prof. P.K. Seth, Director, College Development Council, Dr. Hari Singh Gour Vishwavidyalaya, Sagar.

7. Parthasarathi, Iragavarapu. *Performance evaluation of State Financial Corporations in India : A comparative study.* Andhra.

8. Ramamoorthy, K. *Marketing of contraceptives in India.* Madurai.

9. Rangaswamy, V. *Performance evaluation of Tamil Nadu State Co-operative Bank Ltd.* Madurai.

10. Sharma, Bhuvnesh Chandra. *Material management in Jammu and Kashmir Road Transport Corporation.* Jammu. Dr. N.S. Gupta, Head, and Dr. L.C. Khullar, Reader, Department of Commerce, University of Jammu, Jammu.

11. Sharma, Hari Prasad. *Madhya Pradesh mein samachar patron kee bhoomika : Vikas evem vitt samasyayen.* HS Gour. Dr. N.K. Sahu, Prof. Department of Commerce, Govt. College, Bagbehra, Tahsil Mahasamand, Distt. Raipur.

12. Shreshtha, Vinod Kumar. *Trade policy and industrialisation in Nepal.* BHU. Dr. K.M. Pandey, Reader, Department of Commerce, Banaras Hindu University, Varanasi.

13. Venkatachalam, A. *Export of handloom cloth : A study of the trade policy and marketing practices.* Madurai.

14. Vyas, Smita N. *Recent trends in published accounting reports in India.* Saurashtra. Dr. N.M. Khandelwal.

Home Science

1. Baroova, Basanti. *Evaluation of the nutritional status of the tribal and non-tribal people of Jorhat, Assam and dietary supplementation of soyabean in their conventional dishes as a source of protein.* Assam Agrl. Dr. A. Saikia, Prof. and Head (Retd), Department of Animal Nutrition, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati.

2. Miglani, Navjeet. *Assessment of nutritional status of girl athletes.* PAU.

Management

1. Chopra, V.K. *Corporate strategy and structure of Indian enterprises since independence.* Delhi.

2. Jayaraman, R. *A study of marketing practices in pharmaceutical industry with special reference to small scale units in Tamil Nadu* Madurai.

BHARATHIAR UNIVERSITY
COIMBATORE 641 046
Notification No. 10313/C1/88
Dated : 29.10.88
UGC—JUNIOR RESEARCH FELLOWSHIPS

Applications are invited from candidates who have qualified in the UGC National Educational Test for the award of UGC Junior Research Fellowships allotted to this University at any on time basis.

The University offers the following M.Phil/Ph.D. programme at its University Departments.

1. Physics
2. Botany
3. Zoology
4. Environmental Sciences
5. Computer Sciences
6. Linguistics
7. Sociology
8. Psychology
9. Economics
10. Population Studies
11. School of Management Science and Entrepreneur Development.

Applications, with relevant enclosures, may be submitted (in duplicate) in plain paper furnishing the following particulars :

1. Name
2. Address
3. Father/Husband's Name
4. Age and Date of Birth
5. Religion, Caste (Specify whether BC SC ST Others)
6. Educational qualifications (from degree Level) indicating course completed, college/University, major subjects, specialisation, Marks/Division/Grades obtained etc.
7. Details of UGC NET exam. passed, indicating Centre, Reg. No., Subject, date of test, No. & date of the award letter (attested copy to be enclosed), etc.
8. Department
9. Discipline or Area of proposed research.
10. Whether registered for M.Phil/Ph.D., with details
11. Any other relevant particulars:

Applications should reach the Registrar, Bharathiar University, Coimbatore 641 046 on or before 21.11.1988.

Prof. P.N. Silambannan
REGISTRAR

RAJENDRA AGRICULTURAL UNIVERSITY : BIHAR
PUSA (SAMASTIPUR)
Advt. No. 3/88

Applications are invited on the prescribed form for the following posts so as to reach the undersigned by **5th December, 1988.** Applications received after due date will not be entertained. The application forms along-with other details and terms and conditions may be had from the Assistant Director, Recruitment, Rajendra Agricultural University, Pusa (Samastipur) Pin code 848125 personally or by sending self-addressed envelope of 23 x 6 c.m. size duly stamped with a postage of Rs. 7.60 (for registered post) for each post separately. However, the forms and details may also be had personally from the Principal, Bihar Veterinary College, Patna, Bihar Agricultural College, Sabour (Bhagalpur) and Tirhut College of Agriculture, Dholi (Muzaffarpur).

(i) Applications (**Separate for each post**) with all relevant documents and crossed postal order of Rs. 10/- for general and Rs. 2.50 for Scheduled Castes/Tribes candidates payable to the Comptroller, Rajendra Agricultural University at Pusa should be sent to the "Assistant Director, Recruitment, Rajendra Agricultural University, Pusa (Samastipur)-848125 only through registered post. Application fee sent with the application forms are non-refundable under any circumstances. The name of the post applied for should be written in Capital letters on the top of Envelope.

I. University Level Posts

1. Director Student's Welfare (Non-Plan)

Pay Scale : Rs. 1500-60-1800-100-2000-125/2-2500.

Qualification : (i) Master's degree in any branch of Agriculture Science/ Animal Husbandry & Veterinary Sciences/Basic Sciences and Humanities/ Agriculture Engineering / Fisheries Science/Dairy Science & Technology.

(ii) Preference will be given to a Ph.D. degree holder.

(iii) Ten years experience of teaching in College of Agriculture/Veterinary/ Animal Husbandry/Basic Sciences and Humanities / Agriculture Engineering/ Dairy Technology in the capacity of College Professor/Associate Professor.

(iv) Adequate experience of organisation of sports, games, dramas and other student's welfare activities.

(v) **Desirable** : Evidence of leadership and capacity in teaching and organising student's activities.

2. **Dean/Associate Dean (Home Science)—Non-Plan**

Pay Scale : Rs. 1500-60-1800-100-2000-125/2-2500 special pay of Rs. 250/- p.m. in case of Dean and only a rent free accommodation in case of Associate Dean.

Qualification : (i) Doctorate degree in any branch of Home Science/ (Relaxable to high second class Master's degree or equivalent postgraduate qualification in case of candidates with exceptionally distinguished record of productive research).

(ii) Ten years experience of teaching and/or research extension in the faculty of Home Science, out of which 5 years should have been in a position of responsibility (Professor and Head of a College/University department).

(iii) **Desirable** : (a) Evidence of leadership and outstanding achievement in teaching and organising research.

(b) Experience in managing a college of Home Science.

3. **Associate Dean-cum-Principal, College of Fisheries (Plan)**

Pay Scale : Rs. 1500-60-1800-100-2000-125/2-2500 plus rent free accommodation.

Qualification : (i) Doctorate degree in any branch of Fishery Science with exceptionally distinguished record of productive research and teaching.

(ii) 10 years experience in teaching or research in a Fisheries College or Fisheries Research Institute out of which 5 years should have been in a position of responsible (Professor and

Head of the College/University Department).

Desirable : Evidence of leadership and outstanding achievement in teaching and organising teaching, as Head of the Department.

II. University Professor/Chief Scientist Level Posts

Pay Scale : Rs. 1500-60-1800-100-2000-125/2-2500

Faculty of Home Science

One post each in (i) Food and Nutrition (ii) Clothing and Textile (iii) Child Development (iv) Family Resource Management; and (v) Home Science Extension Education.

Faculty of Agriculture

(i) Plant Breeding (Wheat)-Non-Plan, B.A.C., Sabour.

(ii) Water Management-one for Bikramganj & one for Madhepura—Plan.

(iii) Extension Education (Chief Training Organisor)-one post (ICAR) K.V.K., Munger.

Faculty of Basic Sciences and Humanities

(i) Botany and Plant Physiology-Non-plan-one post.

Sanjay Gandhi Institute of Dairy Technology

(i) Dairy Microbiology-one post (Plan)

(ii) Dairy Chemistry-one post (Plan)

Qualification : (i) General-Doctorate degree in the subject/subjects concerned.

In case of posts in the faculty of Home Science, relaxable to high second Class Master's degree in the subject concerned if persons holding Doctorate degree are not available.

In case of *Water Management* persons holding Doctorate degree only in Agronomy/Soil Science (Soil Physics/Soil Chemistry) and Agriculture Engineering (Irrigation & Drainage) will be considered.

In case of Krishi Vigyan Kendra, Doctorate degree in Extension Education only.

In case of Faculty of Basic Science & Humanities for the post Botany & Physiology, Doctorate degree in Plant Physiology/Botany with specialisation in Plant Physiology.

(iii) **Experience** ; (a) Ten years experience of teaching and/or research out of which half of the period must be in the capacity of Associate Professor/Senior Scientist.

(b) **Desirable** : Good research experience as evidenced by published papers in journals of repute.

III. Associate Professor Level Posts

Pay Scale : Rs. 1200-50-1300-60-1900/-

Faculty of Agriculture

(i) Small Millets (Entomology)-One post (I.C.A.R.)-Dholi.

(ii) Cropping System (Agronomy)-One post (I.C.A.R.) at B.A.C., Sabour.

(iii) Plant Pathology, Betelvine, I.C.A.R.,-One post Pusa.

(iv) Agriculture Economics, NARP, Agwanpur-One post.

(v) Entomology, Honeybee (I.C.A.R.)-Pusa.-One post.

Faculty of Basic Sciences and Humanities

(i) Botany and plant physiology-One post (Non-Plan)-Pusa.

(ii) Chemistry-One post (Non-Plan)-Pusa.

(iii) Statistics-One post (Non-Plan)-Lien Vacancy-Pusa.

Sanjay Gandhi Institute of Dairy Technology

(i) Dairy Chemistry-One post (Plan)-Patna.

(ii) Dairy Microbiology—One post (Plan) Patna.

Faculty of Agriculture Engineering

(i) Power Tiller, Agriculture Engineering I.C.A.R., One post-Pusa.

(ii) Research Engineer AICRP on Farm Implement and Machinery, Pusa ICAR, One post.

College of Fisheries

(i) Fishery Technology and Engineering-One post (Plan)-Dholi.

Qualifications : (1) (General—Doctorate degree in the subject concerned.

In case of Botany and Plant Physiology, Doctorate degree in Plant Physiology/Botany with specialisation in Plant Physiology. In case of Chemistry, Doctorate degree in Inorganic/Physical chemistry and in case of statistics, Doctorate degree in Agricultural Statistics/Statistics.

Relaxable to high second class Master's degree in case of posts in Dairy Technology/Agriculture Engineering if candidates with Ph.D. degree are not available. However, the selected candidate will have to obtain a Ph.D. degree within 8 years of their appointment failing which they will not be allowed to earn any further annual increments.

In case of Fisheries, Doctorate degree in Fish/Shell Fish processing Technology.

(ii) Seven years experience of teaching and/or research/extension education out of which half of the period mnust be in the capacity of an Assistant Professor-cum-Junior Scientist. Only two years as Research experience will be counted for obtaining Ph.D. degree. In case of Fisheries, experience in fisheries college or Fisheries Research Institute.

Desirable : In case of Fisheries knowledge of craft and/or gear technology relevant to fishing operations.

IV. Assistant Professor Level Posts

Pay Scale : Rs. 700-40-1100-50-1600/-

Faculty of Agriculture

(i) Soil Science :—(i) Two posts (NARP Agwanpur & Jalalgarh).

(ii) One post (Rice, I.C.A.R. One post (Agroforestry ICAR, and one post (STCR, I.C.A.R.) all at Pusa.

(ii) Soil Microbiology—One post (P.L. 480)-Dholi.

(iii) Horticulture—One post (Betelvine, ICAR)-Pusa.

(iv) Forestry—One post in Forest protection and One in Forest Economics—Pusa.

Faculty of Basic Sciences and Humanities

(i) Botany and Plant Physiology-One, post (Plan)-Pusa.

(ii) Statistics & Mathematics-One post (Plan)-Pusa. (Computer application).

Faculty of Home Science

(i) Clothing and Textile-One post (Plan)-Pusa.

(ii) Food and Nutrition-One post (Plan)-Pusa.

(iii) Family Resource Management-One post (Plan) and one post (Non-Plan)-Pusa.

(iv) Home Science Extension Education-One post (Plan)-Pusa.

Qualification : General—High Second Class Master's degree in the subject concerned.

In case of Forest protection, Master's degree with specialisation in Forest Protection (Entomology/Plant Pathology) and in case of Forest Economics, Master's degree in Agriculture Economics with specialisation in Forest Economics.

In case of Botany & Plant Physiology Master's degree in Physiology/Botany with specialisation in Plant Physiology/Vegetable breeding and in case of statistics & Mathematics, Master's degree in Computer Science or Statistics/Mathematics, preferably with specialisation in Computer application. Ph. D. if available, will be preferred.

V. Miscellaneous Posts

Applications are invited on plain paper under the following heads giving their details of eligibility supported with testimonials for the post as per advertisement. (Name, Father's name, Permanent address, Present Correspondence address, Qualification, Experience, Nationality & Caste certificate belonging to S.C./S.T. B.C.-I, II, EBC.

1. Lady Matron (College of Home Science)-One post (Plan)-Pusa.

Pay Scale : Rs. 850-30-1270-EB-30-1360/-

Qualification : (i) Graduate (Second Class) preferably in Home Science.

(ii) Single Widow without any encumbrance.

(iii) **Age**—35-45 years.

(iv) **Desirable :** Experience of handling work of woman Hostel.

2. X-Ray Technician (University Hospital, Pusa)-One post (Plan)

Pay Scale : Rs. 535-10-645-15-690-EB-15-765/-

Qualification : (i) I.Sc./B.Sc. and trained as 'X' Ray Technician from any recognised Govt. Institute.

(ii) Retired army personnel will be preferred.

3. Technical Supervisor-15 (Fifteen) Posts

Pay Scale : Rs. 850-30-1270-EB-30-1360/-

ORP, Binda-Diara, Munger-3 posts, K.V.K., Banka-2 posts, K.V.K., Agwanpur-3 posts, ORP. Schedule Caste RAU, Pusa-One post, ORP, Barahiya tal-3 posts, Biogas Pusa-3 posts.

Qualifications : For Biogas-B.Sc. (Ag.)/B.Sc. (Ag. Engg.) Diploma in Civil Engineering with experience in rural Development work, preference will be given to those who have got biogas training and working experience in that field.

(ii) **For others :** B.Sc. (Ag.) with some experience in field extension work. Preference will be given to those who have field experience in the related project.

4. Mechanic-One post

Pay Scale : Rs. 730-1080/-

Qualification : At least matriculate, I.T.I., trade certificate. Other things being equal, preference will be given to those who have working experience in Biogas/Agril. University.

5. Masons-Eight posts

Pay Scale : Rs. 425-605/-

Qualification : Can read & write, having experience of mason's work. Other things being equal, preference will be given to those who are trained in Bio-gas development and having working experience in construction of Bio-gas plants.

TERMS AND CONDITIONS

(1) Specialisation means that the person concerned has submitted thesis and/or has teaching and/or research experience in the field concerned.

(2) Number of Vacancies as indicated above may increase or decrease as per need and discretion of the University.

(3) All posts of Junior Scientist-cum-Asstt. Professor/Asstt. Professor-cum-Junior Scientist and below are primarily meant of S.C./S.T./B.C.I. categories of candidates. However, application of general category candidates will also be considered if suitable candidates belonging to reserved category are not available and under such circumstances the posts would be treated as unreserved.

(4) The University reserves the right to withdraw any post, to change the designation, qualification, pay scale and not to fill up any post even after Selection.

(5) Candidates employed in Govt. Departments/Public Sector undertakings/Autonomous Bodies or elsewhere must submit their application through proper channel. If advance copy is submitted, in that case, he must bring 'No objection Certificate' with him at the time of interview, otherwise his/her candidature will not be considered.

(6) Canvassing in any form and/or bringing in any influence, will be treated as disqualification and will debar the candidates for consideration even for interview.

(7) High starting salary may be admissible to highly qualified persons on the recommendation of Selection Committee in special case.

(8) The service of the candidates selected and appointed against the posts in I.C.A.R. Schemes may stand terminated automatically as soon as the period of sanction of the ICAR post expires.

(9) The period of experience is relaxable to a total of 6 years and 3 years in the capacity of Associate Professor/Senior Scientists for University Professor level posts and 4 years and 2 years for Associate Professor level posts for candidates coming under brilliant categories which means that throughout their career starting from matriculation onwards they may have only one second class and the rest first class.

R.C. Sinha
ASSTT. DIRECTOR (RECT.)

NATIONAL INSTITUTE OF EDUCATIONAL PLANNING & ADMINISTRATION

17-B, Sri Aurobindo Marg,
New Delhi-110 016

CORRIGENDUM

Para 2 and 4 of NIEPA's advertisement appeared in the newspapers on 16th, 22nd, 23rd, 24th and 29th October, 1988 may be read as follows :

"2. Fellow (Comparative Education) (Rs. 3700-125-4950-150-5700)	Lien vacancy likely to be permanent.
4. Senior Technical Assistants (Rs. 1640-60-2600-EB-75-2900)"	

Indian Council of Medical Research

The Council proposes to appoint one **Press Manager** for the Headquarters Office of the Council, New Delhi.

Qualifications & Experience : Essential : (i) A degree/diploma in printing technology; (ii) Experience of 7 years or more in all aspects of Offset printing; (iii) Working knowledge/experience of at least 2 years in photocomposing and reprography work.

Desirable : (i) Experience in Offset printing of scientific & technical matter in a reputed publishing agency or organization; (ii) A degree in science; (iii) Experience in the managerial aspects of Offset printing.

Job Description : To supervise and co-ordinate all aspects and sections of Offset printing in the ICMR Headquarters.

Salary/Conditions of Service : The scale of pay attached to the post is Rs. 3000-100-3500-125-4500 plus allowances as per Central Government Rules. Non-practicing allowance is admissible to Medical Graduates only as per rules of the Council. Benefits of pension admissible.

Age : Below 45 years. SC/ST candidates allowed relaxation in accordance with Government of India Rules.

Candidates called for interview will be paid 2nd class return fare on production of documents.

Applications from employees working in Govt. Departments, Public Sector Organisations and Govt. funded research agencies should be forwarded through proper channel.

Applications can be obtained from the office of the Director General, Indian Council of Medical Research Post Box No. 4508, Ansari Nagar, New Delhi-110029 **on or before 25th November, 1988.** Forms duly completed should be sent to the Director-General, Indian Council of Medical Research, Post Box No. 4508 Ansari Nagar, New Delhi-110029 with a crossed Indian Postal Order for Rs. 8/- payable to Director General, ICMR, New Delhi. SC/ST candidates are exempted from this payment. Incomplete and late applications will not be entertained. Forms duly completed should reach the ICMR office **on or before 30th Nov., 1988.**

CONCEPT
JUST RELEASED

Committees and Commissions in India 1947-1973

Virendra Kumar

Vol I	Rs. 400
Vol II to X	Rs. 200 each
Vol XI	Rs. 400

Committees and Commissions in India provides in chronological order vital information about Committees and Commissions appointed by the Government of India during 1947-73. Information for each Committee or Commission is presented in a compact form in four parts. (1) Constitution (2) Appointment (3) Terms of Reference; and (4) Recommendations. Besides being a work of reference, the series offers an integrated understanding of the functioning of the Government of India. This is an indispensable publication for the use of research scholars, sociologists, historians, economists students of political science as well as to all those connected with the study of administration and legal affairs.

CONCEPT PUBLISHING COMPANY

A-15-16 Commercial Block, Mohan Garden
New Delhi-110059

Show Room Ph. 272187
23 Ansari Road, New Delhi-110002

ADITANAR COLLEGE OF ARTS AND SCIENCE

Virapandianpatnam

TIRUCHENDUR, TAMIL NADU-628 216

(Affiliated to Madurai Kamaraj University)

Conducts an "ALL INDIA SEMINAR ON NEHRU AND HIS CONTRIBUTION" (subject to approval by University Grants Commission) from 27th December, 1988 to 31st December, 1988 and invites applications from teachers working in affiliated colleges and University departments in India for participation.

Teachers specializing in Nehru-Studies alone need apply. Applications with bio-data mentioning the nature of the work done on Nehru must reach the Principal of the College on or before 26th **November, 1988.** In selection, each state will be given representation, provided the applicants satisfy the required norms. T.A. and D.A. will be paid as per U.G.C. conditions. The selected candidates will be intimated in the first week of December 1988.

PONDICHERRY UNIVERSITY

128 Rangapillai Street, Pondicherry

Advt. No. 25/88 **Dated : 22.10.88**

The Pondicherry University Act (Central Act 53 of 1985) under the Statutes No. 3 (1) (2) (3) provides for the following unique Institutions in the University.

(1) The University Directorate of Studies, Educational Innovations and Rural Reconstruction;

(2) The University Directorate of Culture and Cultural Relations;

AND

(3) The University Directorate of Physical Education, Sports, National Service and Students Welfare.

These significant bodies are not usually provided for in many Universities but these have been specially provided for by Parliament in the Pondicherry University Act, 1985.

These innovative bodies are to be headed by **eminent persons of highest calibre** in their respective fields.

As per the Central Act, these Directors are placed in rank next only to the Vice-Chancellor. The post of each Director starts with a basic pay of Rs. 6,500/- in the scale of Rs. 4500-150-5700-200-7300 per mensum plus usual allowances and this will be contractual job for 5 years or until the incumbent attains the age of 65 whichever is earlier.

Age—preferably between 50-60

Men and Women who have occupied eminent positions in Public life and with high academic attainments in their respective fields and high calibre Administrative experience will alone be considered. Outstanding publications will be specially taken into account.

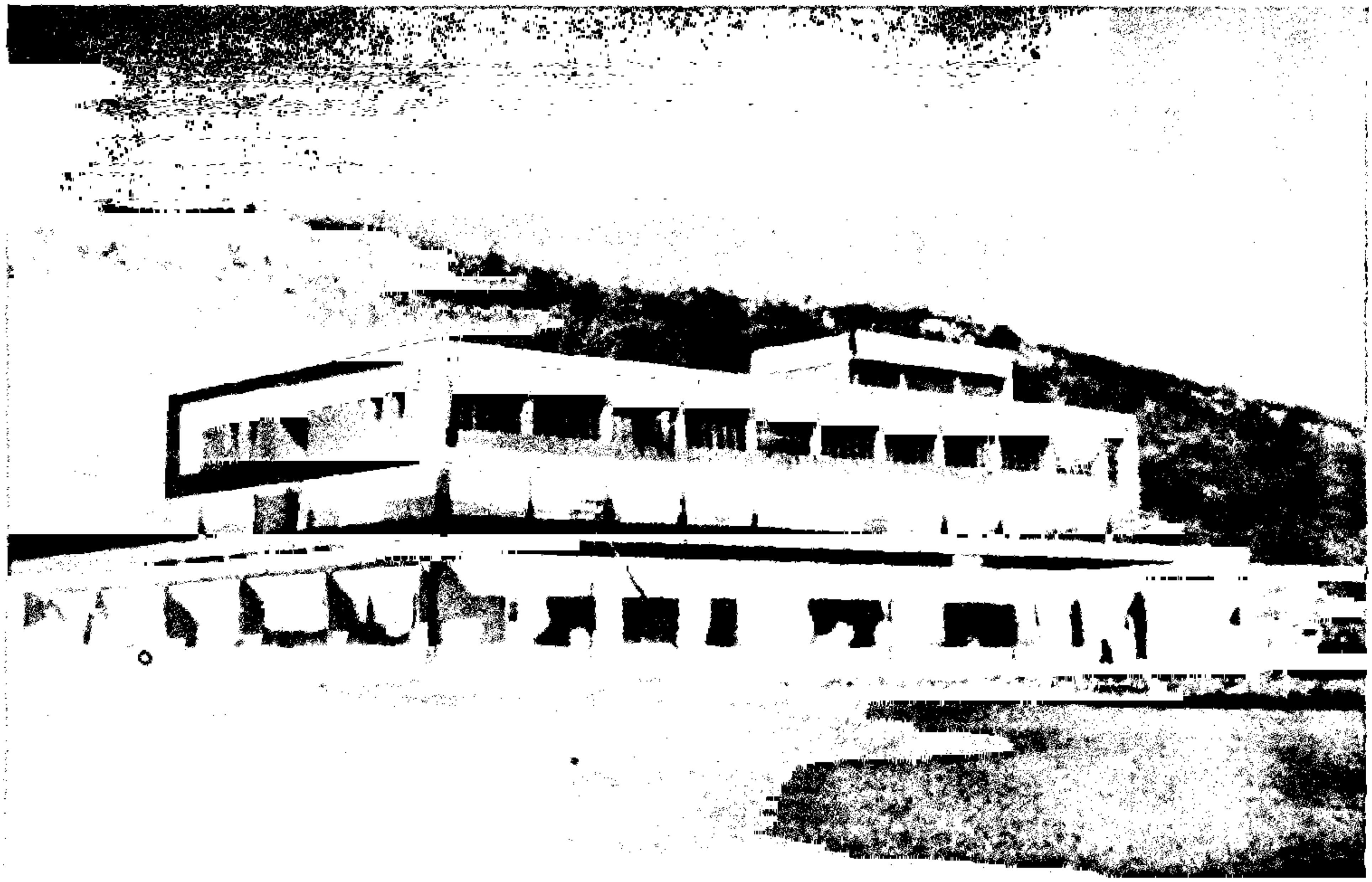
Applications on plain paper stating Age, Qualifications, Experience with complete Bio-data and names of two referees not related to the applicant should reach the Registrar on or before **30th November '88**. A Demand Draft or Indian Postal Order for Rs. 100/- payable at Pondicherry in favour of the Finance Officer, Pondicherry University should be sent alongwith the application.

SC/ST candidates are exempted from payment of these fees. The University will be free to consider cases of those who may not have formally applied for these positions if suitable people do not apply.

Persons called for interview after short listing will be paid first class Train fare to and fro by shortest route.

P.R. Ramanathan
IAS
REGISTRAR

SAMBALPUR UNIVERSITY
Administrative Building



Our hosts to the 218th Meeting of the Standing Committee held on November 5, 1988

Printed & Published by SUTINDER SINGH, on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110002. Grams : ASINDU. Phones : 3315105, 3313390, 3312305, 3310059 and 3312429 Telex 31 66180 AIU IN
Printed by Navchetan Press (P) Ltd. at Navjeevan Printers, 1-E/2, Jhandewalan Extension, New Delhi-110055. Tel. 529157